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FOR OFFICIAL USE

PART A  
IONOSPHERIC DATA

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BOULDER, COLORADO



IONOSPHERIC DATA

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## IONOSPHERIC DATA

The CRPL-F series bulletins are issued as part of the responsibility of the Central Radio Propagation Laboratory for the exchange and dissemination of ionospheric and related geophysical data. While originally a by-product of the collection of data by the CRPL for use in radio propagation studies, the CRPL-F series bulletins, Part A, "Ionospheric Data," and Part B, "Solar-Geophysical Data," have provided useful service by collecting and making available a wide variety of data in convenient form for use in research, not only on radio propagation and the ionosphere, but also on a wide variety of geophysical problems. Beginning with this issue CRPL-F 211, Part A, "Ionospheric Data," a number of changes have been made in the tables of ionospheric data which, by providing more information, should increase their usefulness.

The new form of the tables provides the monthly medians and, in addition, the number of values entering into median determination (count) for all ionospheric characteristics listed. Also, the upper and lower quartile values, indicated by UQ and LQ in the tables, are listed for foF2, h'F2, h'F, and (M3000)F2. Quartile values are not listed for the other characteristics because of space limitations. The tables are prepared by IBM machine methods, which, by improving the speed and efficiency of preparation, permit earlier publication of the data.

Graphs of critical frequencies and (M3000)F2 will continue to appear as in past issues. Graphs of percentage of time of occurrence for fEs and virtual heights of the regular ionospheric layers will no longer appear. This change is necessary to provide space for the enlarged tables. Data on percentage of time of occurrence of fEs above 3, 5, and 7 Mc will still be available from the CRPL and the IGY World Data Center A for Airglow and Ionosphere.

For many years, the tables of ionospheric data appearing in the F-series, Part A, listed values of medians recomputed at CRPL. While this practice enforced a certain uniformity, it is subject to some valid criticism for tampering with original data. The tables and graphs now show the ionospheric data just as they are provided by the originating laboratory. Responsibility for the accuracy and reliability of the data now rests entirely with the originator.

Gaps in the tables when data normally might be expected indicate the data were not provided by the originator. Following the recommendation of the World-Wide Soundings Committee, only values of median foEs are listed. In the few cases where fEs is still reported instead of foEs, the data will not be printed. Data will appear in the F-series, Part A, only when the complete daily-hourly tabulations have been received by the CRPL or the IGY World Data Center A for Airglow and Ionosphere.

Information on symbols, terminology, and conventions may be found in the "URSI Handbook of Ionogram Interpretation and Reduction, of the World-Wide Soundings Committee," edited by W. R. Piggott and K. Rawer (Elsevier, 1961), which supersedes previous documents. A list of symbols is available from CRPL on request.

The following table contains the latest available information on smoothed observed Zurich sunspot numbers, beginning with the minimum of April 1954. Final numbers are listed through June 1961, the succeeding values being based on provisional data.

Smoothed Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	109	102	98	93	88	84
1961	80	75	69	64	60	56	53	52				
1962												

#### Units of Ionospheric Data Tables

foF2, foF1, foEs - Tenths of a megacycle  
 foE - - - - - Hundredths of a megacycle  
 h'F2, h'F, h'E - - Kilometers  
 (M3000)F2 - - - - Hundredths

MED - Median  
 CNT - Count  
 UQ - Upper Quartile  
 LQ - Lower Quartile

## WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 88 and figures 1 to 88 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the  
Commonwealth Observatory:  
Brisbane, Australia  
Canberra, Australia  
Hobart, Tasmania

Australian Department of National Development, Bureau of Mineral  
Resources, Geology and Geophysics:  
Mundaring, Western Australia

University of Graz:  
Graz, Austria

Belgian Royal Meteorological Institute:  
Dourbes, Belgium  
Lwiro (Central African Institute for Scientific Research)

British Department of Scientific and Industrial Research, Radio  
Research Board:  
Halley Bay  
Ibadan, Nigeria (University College of Ibadan)  
Inverness, Scotland  
Port Lockroy  
Singapore, British Malaya  
Slough, England

Defence Research Board, Canada:  
Churchill, Canada  
Ottawa, Canada  
Resolute Bay, Canada  
St. John's, Newfoundland  
Winnipeg, Canada

Universidad de Concepcion:  
Concepcion, Chile

Radio Wave Research Laboratories, National Taiwan University, Taipeh,  
Formosa, China:  
Formosa, China

Czechoslovak Academy of Sciences:  
Pruhonice, Czechoslovakia

General Direction of Posts and Telegraphs, Helsinki, Finland:  
Nurmijarvi, Finland

French National Center for Telecommunications Studies:  
Bangui, French Equatorial Africa  
Dakar, French West Africa  
Kerguelen I.  
Poitiers, France  
Rabat, Morocco  
Tahiti, Society Is.  
Tamanrasset, French West Africa  
Tananarive, Madagascar  
Terre Adelie

National Institute of Geophysics, City University, Rome, Italy:  
Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:  
Akita, Japan  
Tokyo (Kokubunji), Japan  
Wakkanai, Japan  
Yamagawa, Japan

Christchurch Geophysical Observatory, New Zealand Department of  
Scientific and Industrial Research:  
Christchurch, New Zealand

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:  
Tromso, Norway

Manila Observatory:  
Baguio, P. I.

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation,  
Moscow, U.S.S.R.:  
Murmansk

South African Council for Scientific and Industrial Research:  
Marion I., Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:  
Kiruna, Sweden  
Lycksele, Sweden  
Uppsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:  
Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:  
Sottens, Switzerland

United States Army Signal Corps:  
Adak, Alaska  
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):  
Anchorage, Alaska  
Boulder, Colorado  
Byrd Station, Antarctica  
Pole Station, Antarctica



## TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

<u>Quantity</u>	<u>Units</u>	<u>Remarks</u>
Electron Density (N)	$\times 10^3 = \text{electrons/cm}^3$	Body of table; given at each 10 km of height.
NMAX	$\times 10^3 = \text{electrons/cm}^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
KP		The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$\times 10^{10} = \text{electrons/cm}^2$ column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.\* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

\*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65 pp. 185-191.

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>1</sub> KP	2	2	2	2	2	2	2	2	1	1	1	0
HMIN	248	251	219	218	201	198	216	108	109	103	109	108
SCAT	46.3	36.6	45.3	45.5	36.5	60.8	50.3	42.7	34.3	44.1	40.8	30.2
HMAXF	34.3	32.3	30.5	29.1	25.7	30.5	32.1	25.8	24.6	25.5	25.8	25.4
SHMAX	98	67	116	95	62	90	77	283	384	545	681	653
KM												
350	158											
340	158											
330	155	183										
320	148	183										
310	138	177	206					118	109			
300	125	165	205	182				118	105			
290	107	144	200	182				117	95.9			
280	85.2	112	190	179				114	91.8			
270	59.5	75.2	176	172				109	83.4			
260	35.5	37.2	151	161	155	102	73.0			779	1022	1131
250	12.4		116	141	153	94.7	60.2	424	621	777	1012	1127
240			75.6	109	146	84.6	44.8	408	617	757	972	1073
230			60.4	62.9	135	70.2	29.9	381	588	718	901	957
220			12.4	18.4	102	51.5	15.0	339	533	660	791	769
210					47.9	32.5		270	440	556	623	549
200						12.4		205	339	431	459	397
190								151	269	325	340	325
180								112	218	260	283	286
170								87.2	179	214	248	259
160								70.9	149	177	219	231
150								41.6	125	144	186	198
140								98.2	110	127	157	168
130								54.1	97.4	118	141	152
120								47.5	86.2	114	127	143
110								20.5	32.9	97.5	37.2	43.7

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KP	0	0	2	A2	A2	A1	S1	1	A0	A0	0	0
HMIN	109	103	102	106	109		100	215	200	237	238	231
SCAT	42.7	33.6	36.6	34.4	34.3		41.0	32.5	30.9	50.7	53.1	54.5
HMAXF	258	256	249	253	248		283	282	251	340	343	337
SHMAX	678	649	593	575	473		430	290	104	107	113	120
KM												
350										163	163	
340										163	163	171
330										161	161	170
320										156	156	167
310										148	148	160
300										137	137	151
290							642	710		121	120	138
280							641	710		98.0	100	121
270							627	686		73.4	79.2	98.1
260	980	985		898			592	631	283	50.7	56.8	73.2
250	972	978	911	897	894		540	530	283	32.3	33.7	49.5
240	936	931	896	866	883		480	365	274	15.4	12.4	27.8
230	876	839	846	797	834		408	155	250			
220	777	694	762	689	748		324	41.0	208			
210	626	543	631	549	578		235		131			
200	460	419	460	418	357		162		12.4			
190	348	347	367	327	234		109					
180	294	307	298	269	183		76.3					
170	258	281	261	234	149		56.4					
160	222	257	235	209	124		43.7					
150	192	228	206	189	107		35.6					
140	170	190	172	160	95.0		30.7					
130	156	161	147	132	87.0		28.2					
120	149	147	134	118	83.2		26.9					
110	37.2	92.2	108	83.4	25.1		24.2					
100							13.0					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>1</sub> KP	0	0	2	2	2	2	2	2	A2	A2	2	A1
HMIN	258	269	243	222	204	207	227	109	108	107	105	
SCAT	49.7	36.1	38.8	37.1	26.4	43.2	42.4	35.4	34.2	35.1	48.6	
HMAXF	353	343	321	287	251	272	317	244	253	260	273	
SHMAX	103	83	100	93	59	54	61	218	456	592	745	
KM												
360	163											
350	163	170										
340	160	170										
330	154	165	197									
320	145	152	197					103				
310	132	135	193					102				
300	113	108	182					98.8				
290	69.4	76.5	165	211				92.5				
280	63.6	45.2	134	209		108	83.0			923		
270	38.2	12.4	103	200		108	70.3			967	922	
260	12.4		65.8	183	188	106	56.1		744	967	907	
250			33.1	151	188	101	41.2	364	742	947	871	
240			103	179	93.0	27.2	363	715	885	813		
230			45.6	157	80.1	12.4	350	658	789	742		
220				102	58.9		322	556	635	646		
210				34.4	25.5		281	429	471	538		
200							230	331	347	435		
190							176	261	272	348		
180							129	212	224	286		
170							93.0	177	186	242		
160							70.1	148	152	203		
150							59.8	125	133	169		
140							54.7	111	123	149		
130							46.4	99.7	117	138		
120							39.8	87.4	110	133		
110							12.4	30.1	39.4	94.2		

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KP	1	A1	A1	A1	A1	A1	A1	1	2	A2	A2	3
HMIN	107				107			200	219	282	229	238
SCAT	36.2				40.3			48.2	38.7	42.7	38.1	48.0
HMAXF	273				256			282	298	354	311	334
SHMAX	711				662			203	92	86	97	100
KM												
360										167		
350										166		
340										162	155	
330										153	155	
320										139	188	152
310										117	198	145
300										179	88.3	184
290										356	177	44.8
280	1031									356	169	156
270	1029									351	156	131
260	996				1080					338	135	99.6
250	923				1073					318	104	67.7
240	807				1036					288	68.6	38.3
230	637				956					239	39.0	12.4
220	474				854					166	12.4	
210	370				685					81.6		
200	314				491					12.4		
190	283				318							
180	264				226							
170	248				186							
160	218				156							
150	186				131							
140	163				113							
130	150				102							
120	144				95.7							
110	63.4				42.2							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												
60 W												
3 NOV 1961												
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> KP	3	3	2	2	2	1	1	1	0	AO	0	0
HMIN	277	237	220	232	210	207	248	111	108	110	105	108
SCAT	41.9	34.9	44.9	45.9	23.6	49.9	56.1	36.2	33.0	39.3	38.5	35.6
HMAXF	359	315	308	316	252	313	339	255	249	256	263	261
SHMAX	94	100	120	117	56	73	69	252	396	557	662	725
KM												
360	170											
350	168											
340	161							106				
330	150							105				
320	133	206		206			103	103				
310	108	205	214	205			103	98.8				
300	80.2	196	213	199			101	93.0				
290	50.4	179	205	189			97.6	83.8				
280	21.4	153	194	174			91.6	68.9				
270		120	174	148			83.9	51.1				
260		80.2	144	115		193	74.5	31.2	428			
250		43.3	102	75.8		193	63.8	12.4	426	747	815	958
240		16.2	61.5	35.8		182	52.3		410	732	787	897
230			32.3			152	39.5		378	682	730	805
220						88.7	26.9		319	594	652	661
210						12.4	12.4		244	429	546	506
200									179	276	429	380
190									131	195	336	308
180									97.6	148	269	265
170									76.4	111	220	234
160									63.8	95.5	183	204
150									56.6	89.4	155	168
140									52.7	85.7	133	145
130									44.5	83.8	120	135
120									36.2	81.8	114	129
110									28.9	12.4	56.9	81.7

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												
60 W												
3 NOV 1961												
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> KP	0	AO	AO	AO	AO	A1	A1	A1	1	1	1	0
HMIN	107				108				199	209	254	243
SCAT	46.4				35.6				42.9	60.3	44.2	48.3
HMAXF	280				265				284	331	336	325
SHMAX	874				611				139	107	96	110
KM												
340										128	171	
330										128	170	187
320										127	165	186
310										124	156	182
300										120	142	174
290										257	113	120
280	1115									256	106	91.3
270	1103					1031				250	96.8	60.4
260	1064					1026				237	86.6	31.4
250	999					983				216	74.7	83.2
240	905					897				182	61.2	38.1
230	771					771				138	46.9	16.2
220	620					595				84.7	31.8	
210	493					428				41.8	4.7	
200	387					302				12.4		
190	322					228						
180	287					182						
170	259					146						
160	230					116						
150	199					98.1						
140	171					68.9						
130	154					83.2						
120	146					80.0						
110	109					57.2						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												
60 W												
4 NOV 1961												
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> KP	0	0	0	0	0	AO	0	0	0	0	0	1
HMIN	250	229	242	220	209	199	238	110	103	105	105	109
SCAT	44.4	43.9	33.0	31.5	29.1	59.3	51.6	27.1	39.1	30.5	40.1	38.8
HMAXF	328	320	310	280	258	295	331	237	247	245	253	267
SHMAX	102	107	93	87	70	74	67	195	438	485	621	798
KM												
340								103				
330	187							103				
320	185	186						102				
310	179	184	213					98.9				
300	168	177	208				103	93.9				
290	151	165	193				103	86.9				
280	125	147	170	226			102	76.2				
270	90.1	122	134	220			98.7	61.6				
260	50.6	89.8	84.4	203		206	94.3	45.4				
250	1.7	58.9	37.2	170		202	88.6	30.4				
240		33.2		107	186	81.0	12.4		411	696	777	872
230		4.7		49.7	154	70.2			403	669	734	824
220				1.7	62.6	55.1			368	621	650	747
210					12.4	38.4			307	544	534	633
200						12.4			217	428	423	500
190									136	305	341	379
180									90.8	228	283	308
170									69.0	178	238	266
160									58.9	144	204	238
150									54.1	120	177	209
140									51.8	105	155	178
130									42.3	92.1	133	155
120									37.9	81.6	118	136
110									12.4	66.4	92.9	115

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO								60 W		4 NOV 1961		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> KP	1	1	2	2	A2	S3	A3	3	3	3	3	3
HMIN	107	106	108	103	103			200	209	229	251	271
SCAT	36.2	41.3	40.4	47.9	40.9			38.4	70.2	60.3	48.3	40.3
HMAXF	262	271	253	274	262			271	325	331	346	346
SHMAX	691	789	616	688	632			165	149	134	109	87
KM												
350											176	163
340											186	175
330										176	186	171
320										176	184	163
310										174	180	152
300										170	173	133
290										165	165	110
280		1075		858				342	158	152	82.3	41.8
270	999	1075		856	941			341	148	132	53.5	
260	998	1057	923	839	940			334	137	107	28.3	
250	970	1008	922	803	922			315	123	75.2		
240	902	927	901	746	875			284	102	42.2		
230	805	810	848	672	799			234	74.3	12.4		
220	670	664	771	578	698			166	42.6			
210	533	528	647	477	561			88.8	12.4			
200	422	414	490	385	428			12.4				
190	343	335	358	313	309							
180	294	288	287	261	235							
170	263	261	250	224	194							
160	233	237	219	191	161							
150	201	206	188	154	134							
140	177	172	159	133	114							
130	161	153	141	122	101							
120	151	146	133	116	91.1							
110	88.1	85.5	80.4	83.5	85.8							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 H

5 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
G <sub>1</sub> KP	3	3		3	3	3		83	3	45	5	5
HMIN	267	218	221	228	249	189		109	105	108	107	105
SCAT	45.4	43.8	33.8	43.7	48.2	58.1		34.6	41.9	38.7	38.1	58.6
HMAXF	355	311	287	305	336	281		249	265	266	256	289
SHMAX	98	109	86	98	104	84		253	454	693	643	936
KM												
360	162											
350	161											
340	158				176							
330	150				175							
320	138	188			171							
310	122	188		187	163							
300	102	185		186	152							
290	77.8	177	202	181	132	121						1022
280	52.3	165	200	171	105	121						1016
270	21.5	145	189	156	74.4	120			648	1080		996
260		120	169	130	41.8	117			645	1073	1017	961
250		87.3	133	91.4	12.4	112	428	626	1033	1010	911	845
240		57.9	81.3	47.5		105	421	588	456	970	865	762
230		33.1	38.9	16.8		96.8	307	531	445	893	785	644
220		12.4					356	445	682	786	644	528
210							71.1	290	359	490	618	528
200								223	288	354	622	427
190						12.4		163	228	275	332	350
180								120	179	227	252	298
170								92.8	140	191	204	263
160								75.8	112	158	165	231
150								64.8	98.8	133	148	191
140								59.9	76.8	120	138	177
130								50.4	69.9	113	133	151
120								41.7	66.9	109	126	144
110								23.4	60.2	70.6	56.9	111

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 H

5 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A3	A3	2	2		54	54	4	3	3	2	4
HM1N			107	107	109			229	229	200	311	249
SCAT			56.6	43.1	47.5			37.0	47.5	48.8	41.7	73.4
HMAXF			295	281	271			314	328	306	292	380
SHMAX			1204	1055	835			229	246	248	173	163
KM												
390												176
380												176
370												175
360												173
350												169
340												163
330									392			156
320								450	389			146
310								449	378	392		134
300		1411						433	358	390	335	121
290		1408	1533					401	330	379	335	105
280		1387	1532	1131				353	291	361	329	85.4
270		1364	1508	1131				284	237	334	313	65.5
260		1275	1441	1116				205	176	294	287	40.4
250		1191	1338	1075				129	116	238	247	12.4
240		1072	1168	1005				62.7	58.4	176	185	
230		914	932	922				12.4	12.4	108	106	
220		729	702	820						63.0	41.8	
210		557	514	697						31.8		
200		417	386	541								
190		330	310	385								
180		277	261	264								
170		243	227	196								
160		220	201	162								
150		194	177	136								
140		167	153	116								
130		148	131	100								
120		138	117	92.1								
110		100	93.6	38.1								

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

6 NOV 1961

[illegible]

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

6 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KP	1		1	A1		A2	S2	2	3	3		3
HM1N	108	105	103	104	106			200	199	249	250	245
SCAT	52.4	43.8	39.5	31.6	37.7			52.1	61.7	55.4	44.6	49.7
HMAXF	280	282	273	256	248			281	316	360	349	344
SHMAX	760	946	979	762	556			150	122	122	112	127
KM												
370										169		
360										169		
350										167	182	196
340										163	180	195
330										156	173	192
320									148	147	161	184
310										148	132	146
300										146	115	124
290	819	1217						244	142	93.7	97.9	134
280	819	1217	1470					244	136	72.0	72.4	107
270	812	1194	1468					241	128	50.5	48.7	77.2
260	789	1139	1431	1491				234	118	30.4	28.0	45.7
250	751	1053	1344	1476	923			222	106	6.4	1.9	20.7
240	699	929	1213	1391	913			206	93.8			
230	634	771	1020	1230	871			182	79.1			
220	560	614	781	931	796			146	61.1			
210	486	488	561	559	691			94.8	40.1			
200	419	398	407	356	533			12.4	12.4			
190	364	340	328	270	376							
180	319	301	282	227	259							
170	284	271	252	194	198							
160	255	245	224	165	161							
150	225	219	198	144	131							
140	191	195	171	130	109							
130	165	168	153	122	95.3							
120	153	150	142	117	88.8							
110	81.0	129	134	113	80.8							

## ELECTRON DENSITY

60 W

7 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
C <sub>0</sub> KP	3	3		4	4		5	55	4		4	5
HMIN	248	239	229	202	200	249	237		108	107	105	105
SCAT	42.9	52.1	39.9	35.8	67.2	57.4	65.3		32.0	40.8	51.8	45.6
HMAXH	331	332	310	261	301	348	350		245	263	299	285
SMAHX	116	131	119	114	104	102	131		385	644	925	1014

[illegible]

## ELECTRON DENSITY

604 H

7 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KP	5	AS	48		6	5	55	5		6	6	
MF1N	105	107	103	101	105	105	100	200			147	214
SCAT	47.7	39.4	48.1	48.9	49.3	49.5	53.5	42.3	47.4	4.5	54.0	68.0
HMAXF	303	285	289	298	282	292	304	296	298	472	303	352
SHMAX	1279	1240	1249	1187	981	912	653	611	198	5	129	1

[illegible]

## ELECTRON DENSITY

60 W

8 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>g</sub> KP	4	4		4		2	2	52	3	13	3	11
HMIN	300	278	223	210	208	237	257		104	107	110	168
SCAT	46.8	45.0	43.1	21.9	61.9	55.4	57.8		37.9	32.7	53.6	41.1
HMAXF	402	383	313	253	318	350	361		255	254	291	275
SHMAX	129	160	167	83	96	114	138		530	652	1064	972

[illegible]

## CL-CLRON DENSITY

60 W

- 1961 -

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
C <sub>0</sub> RP	1	A1	3	A3	A3	A3	53	3	3	3	3	1
HMIN	109	109	107				99	200	229	129	213	177
SCAT	36.2	43.3	35.4				36.8	61.0	67.0	51.5	26.4	4.7
HMAXF	267	270	263				254	319	223	321	171	200
HMAXA	974	698	838				370	273	137	163	44	20

[illegible]

## ELECTRON DENSITY

RAMEY AF8, PUERTO RICO

60 W

9 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	A2	A2	4	4	4	2	2	2	2	2	2	2
HMIN	259	268	255	229	217	199	229	110	109	109	108	104
SCAT	41.0	40.6	54.9	49.2	40.2	40.7	45.8	37.0	34.3	38.4	41.7	39.5
HMAXF	344	344	348	312	296	284	309	263	248	243	275	267
SHMAX	85	86	113	108	91	85	80	303	434	582	879	923
KM												
350	146	163	170									
340	146	163	170									
330	142	159	166									
320	133	149	160	187								
310	122	135	151	187								
300	108	114	137	184	171			142				
290	91.5	87.8	117	177	170	156	136					
280	70.8	54.8	93.8	168	165	156	128			1179		
270	41.8	17.2	64.9	151	154	151	116	467		1175	1360	
260	12.4		29.4	125	138	142	98.6	466		1142	1350	
250				87.2	116	128	73.9	453	747	999	1071	1298
240				43.5	89.6	106	43.9	421	737	947	975	1201
230				12.4	54.8	81.5	12.4	375	696	969	846	1055
220					19.9	54.8		314	623	907	687	836
210					30.7			251	513	797	543	617
200					6.4			197	377	596	443	468
190								153	274	402	372	379
180								119	206	290	321	325
170								91.5	163	232	282	292
160								73.0	136	195	246	267
150								61.5	113	166	207	241
140								54.0	91.1	144	168	210
130								49.3	83.1	128	144	169
120								45.3	79.4	116	134	149
110								4	25.1	57.6	102	140

## ELECTRON DENSITY

RAMEY AF8, PUERTO RICO

60 W

9 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	2	2	3	3	A3	1	51	1	2	2	2	3
HMIN	103	107	109	103		108	100	214	199	248	232	231
SCAT	37.0	37.2	45.2	39.4		39.7	36.6	37.2	39.6	97.1	50.3	54.5
HMAXF	264	262	268	265		261	268	286	267	406	327	337
SHMAX	937	855	797	740		536	448	215	131	200	113	124
KM												
410											179	
400											179	
390											178	
380											176	
370											173	
360											169	
350											165	
340											161	181
330											153	178
320											143	178
310											129	174
300											112	166
290									471		91.0	156
280									469		69.5	139
270	1404	1298	1080	1080		850	782	451	283	49.1	116	99.8
260	1400	1297	1072	1075		850	773	416	281	30.7	87.2	71.6
250	1354	1264	1039	1038		833	734	358	270	12.4	55.3	46.7
240	1256	1183	978	966		789	668	261	251		28.9	25.8
230	1107	1056	892	861		718	570	129	217			
220	908	881	776	719		622	459	43.5	155			
210	710	680	640	569		501	327		69.9			
200	537	507	492	435		363	219		12.4			
190	413	394	368	343		256	137					
180	343	322	296	284		180	89.3					
170	302	280	252	244		133	62.4					
160	269	251	219	206		105	46.8					
150	234	220	180	168		88.9	36.5					
140	208	193	152	134		77.5	30.6					
130	180	163	139	115		70.2	27.9					
120	157	147	132	107		64.9	26.1					
110	143	103	41.7	97.7		37.0	22.3					
100							1.9					

## ELECTRON DENSITY

RAMEY AF8, PUERTO RICO

60 W

10 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	3	3	1	A1	1	A1	1	1	1	1	1	81
HMIN	225	222	231	237	204	210	217	107	105	106	109	
SCAT	41.1	26.5	52.2	41.8	37.7	44.2	67.4	50.3	40.4	43.1	44.5	
HMAXF	311	284	315	323	273	300	327	253	267	267	274	
SHMAX	110	87	133	109	89	68	87	259	475	702	899	
KM												
330				196								
320	203		223	195								
310	203		222	191								
300	200		218	180								
290	190	236	209	164								
280	175	235	193	142	193	103	93.7					
270	151	220	178	114	193	97.9	87.4					
260	121	187	144	80.9	187	90.1	79.2	374	708	1015	1206	
250	83.0	137	98.6	43.3	175	80.2	68.6	374	682	981	1148	
240	46.7	75.7	43.4	16.2	155	67.6	54.6	368	633	919	1060	
230	20.7	34.9			120	50.7	36.5	355	565	826	932	
220					73.7	30.8	16.0	335	469	674	765	
210					31.4	1.1		304	357	510	589	
200								251	270	382	448	
190								188	205	300	352	
180								128	153	246	294	
170								88.4	110	206	254	
160								67.0	92.5	171	220	
150								56.8	86.2	143	189	
140								50.1	82.5	122	160	
130								44.8	80.3	111	141	
120								39.6	78.4	105	132	
110								24.2	45.8	86.8	59.7	

## ELECTRON DENSITY

RAMEY AF8, PUERTO RICO

60 W

10 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	A1	1	0	0	A0	50	50	0	0	A0	0	0
H <sub>MIN</sub>		104	107	109	104		100	209	210	252	219	229
SCAT		42.0	39.6	41.9	42.3		38.8	33.7	49.7	44.9	38.5	53.5
H <sub>MAXF</sub>		263	257	256	267		269	271	306	338	300	330
SH <sub>MAX</sub>		780	666	591	616		387	179	133	130	134	129
KM												
340										226		
330										224		187
320										217		185
310									206	204	259	180
300									205	186	259	172
290									201	158	255	161
280									192	123	241	146
270												
260	1031				882		602	430	179	83.2	219	125
250	1030	980	846	876			593	418	161	40.2	188	101
240	1005	972	842	847			563	387	137		147	72.8
230	951	932	816	794			517	335	109		95.2	42.0
220	867	860	765	710			458	239	78.4		51.5	12.4
210	752	742	687	585			387	125	41.6			
200	620	597	573	459			314	23.4	3.1			
190	509	460	451	356			235					
180	419	359	355	280			163					
170	355	296	290	225			109					
160	306	258	242	186			73.2					
150	267	229	208	157			50.7					
140	238	201	180	134			39.5					
130	207	174	149	117			32.1					
120	171	152	130	106			27.8					
110	154	140	124	101			25.9					
100	134	56.9	33.1	74.6			23.6					
							15.6					



## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q, K P				1	1	52	52	2	3	3		
H <sub>MIN</sub>	108	103	107	108	108	111	100	199	210	208	249	269
SCAT	41.0	37.5	34.6	44.2	42.8	32.0	30.9	40.1	30.7	45.7	55.9	44.3
HMAX	251	256	258	263	268	247	257	281	267	265	344	355
SHM <sub>1</sub>	583	608	556	620	617	376	299	186	123	99	114	94
AP												163
350												163
340												163
330												159
320												153
310												144
300										163	132	93.4
290								358		163	114	65.7
280								358		159	93.8	38.8
270								351	326	151	69.9	12.4
260	846	854	813	841	862		554	334	322	139	40.9	
250	846	843	814	826	831	681	344	305	302	124	12.4	
240	830	817	773	785	796	673	506	262	263	103		
230	790	753	707	725	712	634	449	201	198	79.9		
220	723	658	603	640	581	561	375	130	87.4	47.9		
210	618	541	487	528	451	462	283	59.7	12.4	16.5		
200	477	433	386	410	340	345	204	12.4				
190	371	352	321	313	264	244	142					
180	301	302	278	266	217	176	99.7					
170	260	268	244	226	182	133	64.1					
160	231	242	212	195	154	106	47.3					
150	178	218	180	166	131	88.7	36.8					
140	156	191	151	141	111	76.6	29.9					
130	149	162	133	129	100	68.6	26.3					
120	144	144	132	122	95.9	64.2	22.8					
110	109	99.9	102	54.3	52.7		22.8					
100							12.4					

## ELECTRON DENSITY

RAHEY AFB, PUERTO RICO 60 W 12 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O <sub>1</sub> KP	3	3	2	A2	A2	A3	S3	3	3	3	3	2
H <sub>1</sub> IN	109	104	107	103	106		99	212	199	219	228	221
SCAT	371.4	444.8	47.5	38.1	45.4		40.6	32.8	38.6	45.4	45.1	41.1
HMA	271	274	287	275	282		269	287	282	331	334	301
SHMAX	875	863	870	784	734		346	205	150	165	154	118
KM										247	246	
330										247	246	
320										244	241	
310										235	229	226
300										219	212	226
290			1031		1022			471	284	198	187	222
280	1298	1110	1026	1131	1022			466	284	173	156	212
270	1298	1108	999	1127	1005		529	439	278	145	120	194
260	1271	1082	949	1089	964		522	390	262	115	84.0	169
250	1198	1029	875	1008	897		499	312	237	83.3	54.9	131
240	1076	948	783	898	804		459	201	201	56.0	32.2	82.2
230	914	833	664	742	676		412	102	158	33.7	12.4	38.1
220	717	699	552	589	516		349	37.7	108	12.4		
210	540	562	455	463	385		274		56.0			
200	416	444	381	366	298		201		12.4			
190	341	361	328	300	236		139					
180	297	311	289	254	191		97.0					
170	267	276	258	219	158		69.1					
160	237	248	230	191	131		51.0					
150	203	221	202	164	109		39.2					
140	171	189	173	141	92.9		32.1					
130	152	159	147	125	82.7		27.8					
120	143	146	133	116	77.3		26.1					
110	41.7	120	95.2	93.1	62.9		23.5					
100							12.4					

## ELECTRON DENSITY

KAMEY AFB, PUERTO RICO

60 ■

13 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
CHFP	.81	.41	1	1			1	51		0	0	0
CHFN	219	222	216	214	212	218	209	100	104	108	107	107
SCAT	42.8	31.2	28.5	53.9	132	56.5	47.8	25.8	33.8	54.4	33.7	57.3
HMAXF	314	285	270	294	387	322	303	235	256	280	238	261
SHMAX	123	96	77	114	251	101	79	221	462	719	467	672
KM												
340					179							
380					179							
370					178							
360					177							
350					176							
340					173							
330					171	142						
320	206				168	142						
310	705				164	141	123					
300	200			186	180	137	128					
290	190	233		185	156	131	126			850		
280	173	237	218	180	150	123	121			850		
270	153	220	218	172	143	112	114			843		815
260	126	196	212	162	134	95.7	101		782	821	815	
250	92.0	154	192	143	122	76.0	83.6		776	785	807	
240	62.2	102	147	115	103	54.4	62.8	446	739	733	782	787
230	38.2	40.6	82.6	74.5	75.4	32.2	42.1	442	667	668	770	754
220	12.2	12.4	27.8	32.2	40.2	12.4	25.6	408	539	592	724	712
210							3.1	342	395	509	641	665
200								252	294	409	501	533
190								183	232	315	371	407
180								133	191	247	292	315
170								101	159	194	245	267
160								81.4	133	153	211	237
150								68.7	111	123	177	208
140								60.8	99.1	114	148	175
130								57.0	81.8	110	132	148
120								41.4	55.4	104	125	138
110								32.1	55.3	49.0	88.4	87.9
100								12.4				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

13 NOV 1961

[illegible]

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

14 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
G.K.K.P	4	4	F5	F5	F5	2	2	A2	1	A1	A1	1
H.M.I.N	222	234	237	229	209	199	254	100	108	108	109	104
S.C.A.F	40.4	41.4	42.8	36.6	38.4	44.8	61.5	34.8	28.7	35.6	46.6	39.5
H.M.A.x.F	323	327	335	299	273	285	366	253	227	247	267	275
S.H.M.A.x.F	122	118	124	90	77	73	103	274	305	432	621	724
K.M												
370							133					
360							138					
350							131					
340			204				126					
330	206	214	204				122					
320	206	218	197				115					
310	201	210	185				105					
300	189	146	164	188			41.2					
290	172	173	144	185			123	75.9				
280	149	138	125	176	170		123	59.2				
270	123	98.3	93.7	159	169	120	40.4				81.2	895
260	93.6	58.4	61.1	137	165	114	21.6	436			808	868
250	65.3	32.5	36.5	106	155	105		435		672	786	810
240	41.7	5.4	16.0	55.0	138	92.0		422		665	744	729
230	23.8			12.4	107	74.8		387	651	633	686	635
220					62.3	54.3		342	641	575	604	543
210					12.4	36.9		286	595	478	501	463
200						12.4		223	498	376	397	397
190								171	328	304	317	346
180								131	213	251	263	307
170								100	154	212	226	273
160								79.5	121	175	194	241
150								65.8	101	145	158	211
140								59.3	96.2	122	135	180
130								54.5	86.2	111	128	156
120								41.8	68.4	102	115	144
110								36.0	27.3	37.6	24.5	95.2
100								12.4				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 E

14 NOV 1961

[illegible]



## ELECTRON DENSITY

RAMEY AFB, PUEBLO COLO 60 W 35 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> RP	AO	AD	AP	AP	AO	SI	SI	1	0	0	0	0
MIN	109				105	109	94	148	207	246	197	214
SCAT	33.6				44.6	41.0	28.5	30.8	52.8	41.4	38.8	44.4
HMAX	247				258	260	243	278	304	335	290	312
SHMAX	52R				647	501	262	86	69	79	84	83
KM												
340										135		
330										135		
320										130		132
310									103	142		129
300									103	110	149	132
290									101	93.6	149	121
280								171	97.6	75.7	147	115
270						815		169	92.3	56.4	139	103
260					125			161	84.7	35.8	126	88.0
250	819				717	803	546	146	74.1	18.1	110	71.2
240	809				444	766		124	59.8		89.0	53.2
230	764				688	706	514	95.5	42.6		68.3	36.3
220	682				802	614	456	65.2	27.6		47.6	20.6
210	563				660	476	368	38.2	12.4		29.9	
200	436				473	338	257	12.4			12.4	
190	362				375	31	170					
180	291				237	157	112					
170	258				190	117	75.6					
160	228				159	92.4	53.5					
150	198				134	77.5	40.5					
140	169				115	67.8	32.0					
130	150				103	62.4	27.2					
120	143				96.1	59.7	25.3					
110	39.4				47.2	22.0	23.5					
100							15.1					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	ΔG	ΔG	A1	Δ1	1	3	53		3	2	2	
HMIN	107	107		107	109	108	99	202	198	217	239	228
SCAT	48.6	47.5		38.7	40.9	38.1	37.3	24.3	46.6	44.3	37.2	33.8
HMAX	262	262		274	264	255	261	242	293	313	318	300
SHMAX	556	705		792	666	440	308	105	29	94	85	82
KM												
310										159	168	
300										159	166	
290										142	148	170
280		894		1184						139	137	123
270	621	891		1183	1017		517			133	119	97.7
260	621	869		1152	1014	710	517			124	94.4	67.2
250	613	828		1082	986	707	506	374	111	68.7	35.7	82.1
240	591	770		971	927	682	476	374	93.9	46.6	5.4	45.5
230	554	685		801	836	631	627	350	71.6	29.0		16.5
220	508	531		612	704	557	356	291	50.8	12.4		
210	455	410		457	537	458	275	123	32.8			
200	399	332		348	383	353	200		12.4			
190	351	284		282	265	255	142					
180	311	254		241	224	181	99.7					
170	280	235		215	186	135	0					
160	252	216		193	159	107	52.7					
150	224	178		173	135	88.6	41.0					
140	196	153		156	116	74.6	33.4					
130	171	140		141	102	64.4	30.0					
120	156	126		124	96.4	60.1	28.5					
110	136	120		77.4	41.7	35.0	21.5					
100							12.4					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>1</sub> KP	2	2	1	1	1	1	1	51	4	4	4	4
HM1N	204	220	253	246	242	210	218	100	104	108	108	105
SCAT	46.8	46.9	44.3	57.6	41.4	36.7	48.6	30.2	32.6	38.9	33.4	37.9
HMAXF	303	300	343	343	325	292	304	235	244	258	250	265
SHMAX	95	86	99	116	85	75	78	190	355	522	524	586
KM												
350			163	169								
340			163	169								
330			161	167	156							
320			155	162	156							
310	148	155	146	155	151		133					
300	148	155	131	146	141	140	133					
290	145	153	109	131	128	149	131					
280	138	147	80.5	110	110	145	126					
270	128	139	51.2	84.3	83.2	135	118					
260	117	125	25.6	52.7	51.5	120	106					
250	101	100		22.5	26.2	97.0	86.2	594	811	854	751	
240	82.1	69.8			71.2	59.3	338	591	776	836	694	
230	60.7	38.4			46.1	34.9	336	567	716	780	618	
220	38.4	3.9			27.0	12.4	319	514	609	681	526	
210	21.0				2.4		282	436	448	533	434	
200							235	347	332	392	356	
190							179	268	262	310	304	
180							131	206	219	262	269	
170							46.9	164	185	228	237	
160							75.5	136	154	200	206	
150							62.0	113	124	177	171	
140							53.9	97.7	111	149	149	
130							49.2	83.3	106	126	137	
120							45.4	74.0	97.9	119	130	
110							35.5	28.9	31.7	59.9	103	
100							19.7					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KP	4	4	A2	2	2	5	55	5	5	5	5	4
HM1N	108	107	108	110	108	109	100	202	198	259	231	221
SCAT	41.7	55.4	34.3	37.1	37.3	45.3	35.4	45.7	41.2	39.1	46.0	37.4
HMAXF	270	304	280	280	254	270	260	290	304	339	327	311
SHMAX	600	894	771	832	545	444	289	220	159	139	152	130
KM												
340										268		
330										264	247	
320										251	246	245
310		976								259	230	245
300		975								366	258	200
290		961								363	252	157
280		932	1080	1287						352	237	109
270	734	887	1063	1263		651	517			332	215	60.5
260	724	826	1012	1192	894	643	517			302	187	12.4
250	693	736	924	1076	892	619	506	261		155	70.4	95.1
240	640	620	803	894	864	580	475	211	122		37.1	55.1
230	570	500	656	693	806	522	424	150	88.7			29.1
220	489	398	504	509	709	440	354	83.1	60.7			
210	415	337	392	367	566	341	270	35.9	36.6			
200	355	300	319	291	416	245	182			12.4		
190	313	275	273	246	303	171	114					
180	281	254	244	218	221	127	75.7					
170	255	232	219	197	175	99.0	52.9					
160	229	202	192	178	148	81.3	39.3					
150	198	169	167	157	127	69.1	31.9					
140	163	151	145	131	108	60.1	27.1					
130	144	141	132	116	96.5	54.7	24.4					
120	137	135	125	109	91.9	52.2	23.1					
110	55.6	49.0	33.5	12.4	18.1	12.4	21.7					
100							13.0					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>1</sub> KP	4	4	F6	F6	6	H6	A6	56	5	5	5	5
HM1N	231	249	266	218	200	197	196	100	108	106	108	105
SCAT	35.7	34.2	34.0	37.9	31.2	53.1	59.3	33.6	38.4	35.9	45.3	58.2
HMAXF	294	329	345	298	253	308	324	248	267	273	254	277
SHMAX	98	97	89	111	61	64	72	180	426	792	650	645
KM												
350			183									
340			182									
330		186	174				83.8					
320		183	159				83.7					
310		175	137				81.9	82.6				
300	226	160	110	224			81.5	80.3				
290	225	138	78.1	221			79.6	76.5				
280	217	108	47.2	211			76.2	72.0				
270	201	74.6	18.8	193			72.0	66.5				
260	172	42.9		166	158	65.3	60.1		613	1226		679
250	124	12.4		128	158	62.5	53.4	297	582	1101	935	644
240	58.4			79.0	151	58.9	46.6	294	536	964	915	610
230				39.9	136	50.1	39.6	277	471	788	873	569
220				12.4	110	36.8	32.2	247	395	602	807	516
210					69.2	25.7	23.9	205	319	450	711	453
200					12.4	12.4		158	254	354	582	387
190								118	203	291	437	328
180								86.1	163	245	307	281
170								64.4	134	208	239	246
160								53.6	112	176	206	217
150								48.8	94.8	148	180	190
140								45.3	81.4	125	148	161
130								41.5	72.8	106	123	133
120								36.0	69.1	96.7	114	127
110								31.5	49.3	74.1	53.9	113
100								12.4				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KP	5	5	5	A5	A5	A3	S3	3	4	A4	4	3
HM1N	107	104	107	108				211	199	230	231	236
SCAT	39.0	38.3	42.2	42.6				40.0	36.0	46.0	44.2	45.1
HMAXF	275	265	277	277				293	276	324	318	340
SHMAX	813	634	731	815				242	160	151	135	152
KM												
350												236
340												236
330											243	233
320											242	236
310											237	234
300											225	227
290											209	213
280	1126		976	1173				469			186	192
270	1121	898	969	1166				468			164	164
260	1085	895	935	1128				456	340		135	135
250	1011	865	873	1056				429	338	157	164	105
240	895	803	784	951				388	324	127	127	75.0
230	744	713	665	804				326	297	90.8	80.7	43.9
220	600	597	534	634				241	253	44.9	38.3	18.4
210	481	474	425	471				145	191	3.1		
200	391	370	347	348				49.0	116			
190	329	306	293	273				12.4				
180	286	264	252	226								
170	251	233	221	194								
160	223	204	194	169								
150	196	175	165	146								
140	169	147	132	124								
130	147	128	118	106								
120	134	119	111	96.9								
110	103	58.4	77.4	49.0								

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	A3	3	A3	3	A3	7	2	520	A2	2	2	0
HMIN	252	199	199	199	266	266	263	100	108	108	105	107
SCAT	38.3	24.2	29.0	47.2	57.7	45.5	50.8	34.5	34.9	42.0	31.5	29.5
HMAXF	337	260	253	298	376	362	363	266	257	269	258	253
SHMAX	157	148	70	108	115	109	122	232	444	670	658	644
KM												
380					156							
370					156	178	188					
360					153	178	186					
350					148	175	185					
340	297				141	168	178					
330	295				132	157	168					
320	282				117	140	154					
310	259				98.1	118	131					
300	228				168	77.5	90.1	106				
290	187				167	57.8	63.0	75.7				
280	135				162	37.8	39.4	46.2				
270	78.1	450			152	18.1	18.1	23.1	358	985		
260	36.6	450	197	140					355	747	972	1131
250		430	196	124					338	740	932	1115
240		370	187	104					306	703	864	1044
230		260	166	73.7					262	636	762	915
220		120	126	55.6					212	535	613	719
210		47.7	58.5	31.6					165	403	458	519
200		12.4	12.4	5.9					129	288	340	377
190									100	215	264	300
180									78.5	171	220	255
170									63.7	139	189	222
160									53.2	113	161	194
150									46.0	93.5	135	168
140									41.5	81.8	113	143
130									39.4	76.8	102	123
120									37.2	69.6	95.7	116
110									33.2	39.6	53.0	106
100									19.7			

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	0	0	0	AO	0	50	AO	AO	0	AO	0	2
HMIN	108	109	108		109	168		199	209	248	246	218
SCAT	32.5	30.3	41.4		36.9	36.8		38.7	54.6	35.6	41.7	33.8
HMAXF	253	242	251		250	238		268	311	322	321	293
SHMAX	687	528	480		447	346		76	77	60	85	80
KM												
330										124	162	
320										101	124	162
310										101	120	159
300										101	111	152
290										98.6	98.6	139
280										95.5	80.5	120
270										156	91.1	57.3
260	1184		645							154	85.6	33.5
250	1182	958	645		754					147	78.1	12.4
240	1140	957	634		741	701				136	68.1	
230	1041	923	604		698	693				117	54.8	
220	877	838	595		632	634				90.3	36.4	
210	649	678	486		515	601				52.1	4.7	
200	456	489	411		365	463				12.4		
190	337	354	345		257	247						
180	282	286	290		195	143						
170	250	251	247		162	105						
160	225	222	218		136	84.1						
150	199	187	190		117	70.3						
140	173	155	156		104	62.9						
130	152	137	132		85.1	60.2						
120	137	120	124		80.3	53.5						
110	81.8	24.1	38.1		41.7	31.5						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	2	2	4		4	3	A3	53	4	4	4	3
HMIN	229	220	239	224	210	199	199	110	108	108	107	108
SCAT	39.1	42.7	35.1	37.0	33.0	52.4	65.5	31.2	33.4	31.0	32.5	31.1
HMAXF	316	311	313	297	283	292	325	241	238	252	256	255
SHMAX	93	105	89	98	77	91	95	180	294	475	620	661
KM												
330								108				
320	170	186	188					107				
310	169	186	187					106				
300	163	183	181	206			140	103				
290	151	175	167	204	171	140	99.7					
280	134	162	144	195	171	139	94.3					
270	111	142	109	179	164	134	88.2					
260	84.7	114	77.6	151	150	128	80.5					
250	56.9	81.5	43.0	115	127	118	71.7	322	782	1003	1080	
240	33.5	52.2	12.4	69.3	93.8	103	61.8	322	482	754	939	1020
230	5.9	28.0		30.7	56.3	83.7	51.9	312	476	684	836	910
220		1.9			30.4	62.4	41.8	285	445	576	686	754
210						39.0	31.3	244	400	449	531	588
200						12.4	12.4	191	333	342	393	444
190								143	259	272	307	345
180								107	203	228	260	288
170								81.4	160	198	233	252
160								64.6	130	171	211	228
150								55.1	108	147	187	207
140								50.6	91.9	129	160	180
130								41.8	83.5	120	140	151
120								31.7	71.6	104	124	135
110								19.7	61.7	40.4	71.9	92.2

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	3	3	2	2	A2	3	53	A3	A3	A3	A3	A3
HMIN	109	108	109	107		109		199	198	257	258	259
SCAT	41.1	36.3	47.2	34.5		31.2		30.5	42.4	48.1	46.5	43.8
HMAXF	271	270	250	254		251		263	281	359	358	353
SHMAX	736	786	515	479		323		127	74	86	111	122
KM												
360										133	178	197
350										132	177	196
340										129	172	192
330										121	162	182
320										112	149	167
310										99.4	130	150
300										82.6	105	130
290										132	61.6	76.3
280	985	1184								132	42.8	49.9
270	985	1184								309	130	27.4
260	969	1160			714					308	124	12.4
250	924	1091	710	711		572				295	114	
240	849	976	703	682		554				265	101	
230	744	799	680	624		504				218	83.8	
220	611	620	641	538		440				156	59.8	
210	482	468	584	439		355				82.0	34.9	
200	388	360	496	351		258				12.4	12.4	
190	323	308	384	289		182						
180	284	277	286	244		136						
170	262	253	234	211		106						
160	241	227	201	182		84.4						
150	214	195	174	158		70.9						
140	176	165	147	134		62.1						
130	149	148	128	111		58.2						
120	139	126	120	104		50.2						
110	59.7	54.2	41.7	61.7		19.7						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

21 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	F3	F3	F1	F1	A1	A1	A1	A1	A0	0	0	1
HMIN	249	242		219	207	199	217		110	109	108	109
SCAT	36.6	30.8		29.5	38.6	49.3	50.5		35.1	32.0	34.4	27.7
HMAXF	334	316		284	300	282	319		252	252	261	234
SHMAX	106	89		94	113	89	103		383	497	587	478
KM												
340	195											
330	194											
320	187	201						160				
310	173	199						159				
300	154	186			202			154				
290	133	165		229	199	148	147					
280	108	134		228	189	148	136					
270	75.8	97.8		216	172	146	119			894		
260	40.7	56.7		192	148	140	97.0		621	842	894	
250	12.4	28.9		156	121	132	72.1		621	841	873	
240				108	92.2	121	49.2		603	812	814	898
230				52.9	60.7	105	29.9		559	734	717	893
220			12.4	35.5	82.7	12.4			493	630	589	840
210				16.0	52.9				401	487	462	728
200					12.4				308	356	361	562
190									231	276	297	398
180									181	228	256	295
170									146	191	226	250
160									120	160	197	223
150									103	137	168	197
140									92.5	119	140	165
130									77.4	102	120	135
120									69.5	95.4	114	126
110									13.0	41.7	38.8	39.4

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

21 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	1	1	1	A1	1	A2	A2	A2	2	2	A2	A0
HMIN	108	108	107		109		100	207	209	248		249
SCAT	29.1	34.3	38.0		29.9		40.1	40.1	52.5	55.8		37.0
HMAXF	241	253	246		240		244	298	306	359		329
SHMAX	444	495	459		394		211	84	76	110		98
KM												
360											148	
350											147	
340											144	
330											138	193
320											130	190
310										115	120	180
300									149	114	106	163
290									147	112	90.2	140
280									141	107	70.8	109
270									130	101	51.1	69.1
260									116	92.0	31.8	38.8
250									381	95.5	79.3	12.4
240	697	712	672						380	71.4	62.3	
230	697	689	668			714			369	48.9	44.8	
220	609	546	596			636			347	29.5	26.8	
210	512	445	524			538			306	12.4	3.1	
200	413	361	422			415			234			
190	337	307	331			307			158			
180	291	271	274			231			101			
170	250	246	238			183			64.4			
160	231	221	210			152			43.4			
150	206	193	183			129			32.4			
140	176	163	149			112			27.0			
130	140	135	126			98.8			24.6			
120	132	126	113			90.5			23.3			
110	73.8	86.9	93.9			25.3			21.2			
100									13.0			

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

22 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	0	A0	A1	F1	A1	A1	A1	S1	1	1	1	1
HMIN	242	227	199	202	198	220	197	100	108	105	108	104
SCAT	30.9	34.9	29.5	28.2	36.7	53.2	37.4	40.5	34.6	36.7	29.5	35.8
HMAXF	310	302	256	262	271	300	276	250	228	247	239	238
SHMAX	86	99	71	72	61	64	51	186	266	435	480	455
KM												
320	197											
310	177	214										
300	191	214				108						
290	175	208				107						
280	151	193			124	104	101					
270	121	166		195	124	99.2	101					
260	85.5	127	188	195	121	92.5	96.4	297				
250	37.9	81.2	186	186	114	81.2	88.7	297		619		
240	41.3	174	166	102	63.1	76.4	293		613	858	660	
230		16.2	151	127	85.0	37.9	59.6	279	450	587	838	652
220			112	70.7	62.5	3.9	42.0	256	444	536	770	620
210			60.2	33.5	36.8		27.2	223	419	466	638	559
200			12.4		12.4			174	375	389	452	473
190								126	312	321	341	384
180								83.9	238	269	279	316
170								53.4	181	230	241	276
160								42.8	143	199	212	249
150								38.0	116	171	187	222
140								35.5	99.9	148	169	193
130								34.2	84.5	125	140	164
120								31.8	75.4	107	122	143
110								27.4	39.5	92.4	108	131
100								13.0				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

22 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	1	1	0	0	A0	A0	S0	R0	0	0	F0	F0
HMIN	109	109	108	109	109			189	215	286	250	252
SCAT	38.8	30.7	35.1	40.4	48.0			55.7	76.5	50.3	38.0	29.2
HMAXF	253	260	243	262	279			273	335	369	341	314
SHMAX	497	613	488	535	690			83	76	78	85	71
KM												
370										127		
360										126		
350										123	151	
340										117	151	
330									81.9	108	148	
320									81.1	94.8	138	179
310									79.7	77.3	126	178
300									77.6	54.6	110	169
290									74.8	26.0	88.5	149
280									124	71.5	66.3	119
270		1031		710	932				124	66.9	46.4	75.2
260	648	1031		710	903				122	61.9	27.5	35.5
250	647	1002	782	694	854				119	55.8	2.4	
240	629	916	760	656	784				113	48.4		
230	588	772	754	596	653				105	37.6		
220	529	567	697	517	511				95.2	20.1		
210	455	404	595	431	383				83.2			
200	385	316	440	357	292				67.3			
190	329	273	349	302	233				25.1			
180	290	249	275	259	197							
170	262	231	237	226	171							
160	237	210	211	197	147							
150	212	181	182	173	125							
140	184	151	152	143	103							
130	156	131	134	123	90.2							
120	137	122	125	114	86.9							
110	39.4	41.7	42.3	41.7	41.7							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

23 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	F0	F0	F0	F0	F0	F0	0	50	1	1	1	1
HMIN	230	217	202	180	240	110	110	109	108	108	109	109
SCAT	36.9		36.4	39.9	22.5	40.8	31.0	38.4	53.0	27.1	89.0	
HMAXF	302	289	203	216	317	235	236	250	233	295		
SHMAX	82		101	88	28	44	157	282	417	390	700	
KM												
320							81.9					
310		170					81.4					
300		169					78.6				567	
290		165		214	168		73.2				566	
280		154		210	168		65.6				563	
270		137		199	163		55.3				556	
260		112		180	153		42.9		515		545	
250		80.3		154	139		26.8		515		531	
240		40.5		113	117		2.8	278	489	510	714	512
230		3.1		59.0	87.1			276	486	496	711	492
220			19.9	52.3	103			260	467	473	670	467
210				26.4	101			231	433	441	579	436
200					90.4			195	368	396	436	398
190					67.5			149	267	341	323	356
180					12.4			110	184	283	265	314
170								82.4	130	233	229	278
160								65.0	95.5	190	197	249
150								55.2	85.1	159	164	221
140								51.8	81.4	132	139	189
130								41.9	79.5	110	129	156
120								31.1	70.0	103	125	138
110								19.7	13.0	33.0	49.3	59.7

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

23 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	1	1	A1	A1	1	1	S1	1	1	1	F1	0
HMIN	107	108	108		109	110		193	200	227	231	200
SCAT	62.0	43.0	33.3		41.8	31.5		26.8	53.2	48.2	43.2	44.4
HMAXF	275	269	250		251	246		245	281	352	321	297
SHMAX	711	605	524		486	313		83	67	93	116	117
KM												
360											124	
350											124	
340											122	
330											118	195
320											110	195
310											101	192
300											90.2	184
290											107	78.5
280	758										107	65.6
270	756	782									106	52.9
260	747	775			747						103	41.7
250	727	746	834		747	594					235	98.4
240	699	696	817		735	588					233	91.2
230	660	623	757		702	556					218	82.0
220	594	520	670		649	493					184	68.4
210	508	420	548		547	394					134	49.0
200	444	342	409		445	280					70.6	12.4
190	394	292	312		319	194						
180	305	257	259		230	136						
170	270	228	229		184	102						
160	246	204	199		154	80.4						
150	225	174	164		131	66.1						
140	201	152	143		112	59.1						
130	173	143	125		99.8	56.1						
120	150	138	122		95.2	56.5						
110	121	81.5	89.1		25.3	13.0						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

24 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	0	0	1	1	F1	F0	F0	50	50	0	A0	1
HMIN	238	229	214	216	235	201	200	110	109	108	106	104
SCAT	38.8	35.1	32.8	30.0	37.4	29.1	40.5	28.7	26.7	28.6	27.1	38.8
HMAXF	318	305	287	274	324	269	281	246	229	233	226	233
SHMAX	125	133	122	83	93	90	84	201	281	353	393	403
KM												
330					165							
320		236			165							
310		234	271		159							
300		223	270		148							
290		205	259	271	134							
280		182	237	268	215	115						
270		151	206	253	214	93.4	209	142				
260		109	168	225	203	71.8	204	133				
250		55.6	121	185	180	46.7	185	123	383			
240		16.5	60.7	132	138	20.7	161	109	379			
230			12.4	69.4	80.8		132	93.5	353	621	620	714
220				30.7	27.8		89.7	77.1	303	604	591	704
210							42.3	59.1	236	547	524	648
200								12.4	174	417	430	545
190									126	255	336	419
180									91.7	171	263	323
170									70.2	131	213	267
160									57.5	108	176	230
150									49.6	93.0	141	197
140									45.6	81.7	117	167
130									39.4	72.0	108	142
120									30.0	58.9	104	124
110									19.7	30.3	72.7	84.1

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

24 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	1	1	1	A1	A1	A1	A1	A1	A1	A1	C1	C1
HMIN	106	107	107		108	107					238	
SCAT	36.8	32.5	35.3		31.9	31.7					48.8	
HMAXF	257	260	261		250	249					338	
SHMAX	563	596	612		437	368					106	
KM												
340											163	
330											162	
320											157	
310											150	
300											139	
290											124	
280											105	
270											83.2	
260	747	923	898								56.6	
250	740	901	875		714	734					32.7	
240	705	834	817		696	717					12.4	
230	643	718	723		641	665						
220	551	551	596		559	561						
210	451	420	465		454	394						
200	372	336	368		355	250						
190	320	291	305		275	170						
180	289	264	265		219	126						
170	268	244	239		182	97.8						
160	250	223	215		154	82.1						
150	230	197	189		131	72.3						
140	210	156	155		113	65.3						
130	171	140	142		102	60.7						
120	148	133	135		95.9	57.8						
110	114	113	93.9		49.3	46.0						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	C1	C1	C2	C2	C2	C2	C2	C2	C1	C1	C1	A1

Q <sub>RP</sub>	1	1	1	1	1	F2	2	S2	1	1	1	1
HMIN	224	219	211	205	211	188	210	100	109	108	108	108
SCAT	36.9	35.2	29.6	46.1	32.3	52.1	56.1	34.6	34.6	34.9	36.8	46.4
HMAXF	313	293	271	284	279	289	296	228	233	239	244	257
SHMAX	141	123	118	150	109	110	103	181	276	401	459	559
KM												
320	271											
310	271											
300	263	269					159					
290	244	268		270			155	159				
280	216	259	310	270	259	154	156					
270	177	240	310	264	254	150	151					
260	131	207	300	252	237	143	143					
250	85.8	157	273	234	206	134	132					
240	47.5	94.3	225	206	156	120	114					
230	22.3	44.4	150	166	87.0	102	89.9	337	466	605	714	623
220		12.4	55.3	106	38.3	86.2	58.8	332	450	568	666	572
210				32.8		73.1	12.4	314	415	507	577	505
200						59.6		280	356	424	436	433
190						31.5		217	281	341	321	369
180								154	212	274	257	319
170								105	164	229	221	280
160								73.8	132	195	187	249
150								58.0	111	170	150	218
140								50.4	93.7	149	130	190
130								47.2	78.5	122	120	153
120								37.9	71.5	105	115	137
110								29.1	22.2	61.1	53.8	91.9
100								13.0				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	A1	1	1	1	1	0	S0	0	0	0	0	F1

Q <sub>RP</sub>	108	105	107	108	109			198	199	226	216	262
HMIN	42.8	63.8	47.3	33.7	45.7			50.3	49.7	37.9	59.2	46.9
SCAT	259	294	279	251	253			306	283	312	337	359
HMAXF	626	862	831	520	368			124	72	90	138	142
SHMAX												
KM												
360												224
350												221
340												178
330												201
320												184
310												163
300			859					178		170	168	138
290			857					174	118	156	149	108
280			847	1080				167	118	140	134	66.6
270			827	1070				156	116	118	116	29.3
260		890	797	1036	898	567		140	112	90.0	93.8	
250		881	754	974	898	566		121	105	62.3	71.1	
240		848	703	895	875	556		100	96.3	38.3	49.9	
230		792	642	792	813	532		79.9	83.9	18.1	31.3	
220		703	573	661	710	496		58.0	64.4		15.1	
210		562	497	519	562	439		34.0	39.3			
200		413	421	388	416	351		12.4	12.4			
190		325	353	299	303	251						
180		279	299	246	225	168						
170		249	254	212	180	113						
160		221	214	186	148	84.6						
150		186	167	157	120	66.6						
140		159	144	131	102	59.4						
130		144	136	123	94.0	56.3						
120		137	132	119	90.7	54.7						
110		39.5	93.0	57.0	43.9	20.8						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	1	1	1	1	1	F2	2	S2	1	1	1	1

Q <sub>RP</sub>	224	219	211	205	211	188	210	100	109	108	108	108
HMIN	36.9	35.2	29.6	46.1	32.3	52.1	56.1	34.6	34.6	34.9	36.8	46.4
SCAT	313	293	271	284	279	289	296	228	233	239	244	257
HMAXF	141	123	118	150	109	110	103	181	276	401	459	559
SHMAX												
KM												
320	271											
310	271											
300	263	269					159					
290	244	268		270			155	159				
280	216	259	310	270	259	154	156					
270	177	240	310	264	254	150	151					
260	131	207	300	252	237	143	143					
250	85.8	157	273	234	206	134	132					
240	47.5	94.3	225	206	156	120	114					
230	22.3	44.4	150	166	87.0	102	89.9	337	466	605	714	623
220		12.4	55.3	106	38.3	86.2	58.8	332	450	568	666	572
210				32.8		73.1	12.4	314	415	507	577	505
200						59.6		280	356	424	436	433
190						31.5		217	281	341	321	369
180								154	212	274	257	319
170								105	164	229	221	280
160								73.8	132	195	187	249
150								58.0	111	170	150	218
140								50.4	93.7	149	130	190
130								47.2	78.5	122	120	153
120								37.9	71.5	105	115	137
110								29.1	22.2	61.1	53.8	91.9
100								13.0				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	A1	A1	A1	A1	A1	A2	S2	2	2	2	2	0

Q <sub>RP</sub>	107							190	201	227	234	205
HMIN	38.8							37.0	75.4	76.7	54.4	36.4
SCAT	238							270	322	363	339	294
HMAXF	424							124	122	170	175	132
SHMAX												
KM												
370											186	
360											186	
350											185	
340											182	257
330										130	177	255
320										130	171	249
310										129	165	238
300										127	154	224
290										124	137	202
280										120	117	171
270										235	114	95.7
260										231	108	72.9
250										218	101	49.6
240						677				196	93.3	30.2
230						665				166	84.4	12.4
220						635				134	72.8	
210						583				100	51.2	
200						513				64.4		
190						422						
180						309						
170						215						
160						170						
150						140						
140						118						
130						103						
120						96.1						
110						78.1						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 NOV 1961

[illegible]

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 NOV 1961

[illegible]

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

29 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	F2	2	1	1	1	A0	A0	50	0	0	0	0
HMIN	230	234	224	219	221	200	197	100	107	104	104	104
SCAT	28.8	34.3	40.5	31.0	36.4	56.8	46.3	38.4	28.9	33.0	31.2	35.3
HMAXF	292	308	303	281	297	283	298	236	235	243	235	232
SHMAX	80	93	112	99	93	86	68	169	288	446	449	412
RM												
310		197	215									
300	204	144	215		188		103					
290	204	183	210	247	186	130	102					
280	194	164	196	247	178	130	99.0					
270	173	135	179	235	162	128	92.9					
260	140	103	154	219	142	125	85.4					
250	76.2	63.8	115	184	112	119	76.1					
240	43.1	28.8	63.2	129	75.3	111	63.9	270	494	746	819	591
230	3.1		27.6	54.8	36.4	102	50.7	268	490	719	815	590
220				12.4		89.3	37.5	258	462	658	774	574
210						69.8	26.0	238	404	555	692	533
200						12.4	12.4	210	329	424	527	471
190								166	263	316	351	402
180								123	211	250	271	341
170								91.6	170	208	235	292
160								71.6	140	178	208	255
150								59.3	117	151	169	229
140								54.6	103	130	135	200
130								44.2	94.0	118	126	162
120								34.7	75.0	111	121	138
110								30.3	47.4	75.4	94.3	119
100								19.7				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

29 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	A0	A0	A0	A0	A0	A1	51	1	1	1	1	0
HMIN	106						100	200	212	207	209	198
SCAT	43.1						26.3	28.9	47.6	39.6	45.1	46.2
HMAXF	248						231	248	280	300	312	294
SHMAX	491						237	86	52	71	96	94
RM												
320											154	
310											154	
300										124	151	149
290									97.6	122	145	149
280									97.6	116	136	146
270									96.5	106	121	139
260									93.2	93.3	101	129
250	619								245	88.1	76.8	77.9
240	613								607	241	80.0	58.7
230	592								607	222	66.3	41.8
220	551								580	185	40.0	27.2
210	500								509	115	12.4	4.0
200	435								371	12.4		12.4
190	374								197			
180	323								106			
170	283								63.5			
160	251								43.0			
150	225								31.3			
140	202								25.8			
130	149								23.8			
120	135								22.1			
110	121								19.3			
100									13.0			

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

30 NOV 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	F0	0	1	1	A1	A0	A0	50	A0	0	0	0
HMIN	200	212	207	218	239	238	218	100	105	107	106	105
SCAT	37.6	39.3	35.7	33.2	34.0	33.5	33.3	31.4	39.1	36.7	36.2	41.2
HMAXF	289	301	281	283	319	311	305	243	247	236	229	250
SHMAX	89	95	119	105	97	92	119	214	369	425	420	492
RM												
320					197	197						
310		174			193	197	236					
300		174			182	191	235					
290	163	170	259	245	162	177	225					
280	161	160	259	245	138	155	203					
270	153	146	253	236	109	126	176					
260	138	125	237	217	70.3	90.2	143					
250	120	99.5	210	184	36.4	51.2	102	389	580		648	
240	95.3	69.7	162	136	4.7	16.5	64.9	388	576	704	639	
230	69.1	44.5	103	74.2			37.2	371	553	698	707	611
220	46.1	24.7	54.0	20.5			12.4	337	513	669	696	564
210	27.0		19.9					272	436	614	657	491
200	2.4							203	338	511	592	414
190								148	258	381	452	351
180								107	199	283	327	306
170								82.8	158	225	259	270
160								66.9	130	188	223	235
150								57.1	111	158	192	199
140								51.8	97.5	132	164	155
130								48.0	90.4	120	143	142
120								38.4	76.5	114	132	139
110								31.1	54.6	63.7	59.2	107
100								12.4				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

30 NOV 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	0	A0	A1	A1	A1	1	A1	A1	A0	0	0	2
HMIN	108	106	104	110		108			199	197	248	231
SCAT	48.3	45.1	37.8	37.8		42.6			42.5	44.3	45.4	41.8
HMAXF	268	257	259	252		269			268	288	345	344
SHMAX	689	597	643	526		618			76	78	88	121
RM												
350											141	182
340											141	181
330											137	177
320											131	167
310											120	153
300											105	136
290											133	87.9
280											132	69.5
270	815								153	128	51.0	80.1
260	810	747	890	782		965			151	120	32.1	57.9
250	787	742	876	782		928			146	108	12.4	38.3
240	747	720	831	764		865			137	91.6		22.8
230	691	681	755	719		767			121	70.7		
220	600	620	656	646		620			94.0	48.7		
210	502	541	546	538		447			60.3	29.9		
200	418	459	440	423		311			12.4	12.4		
190	357	385	359	334		211						
180	318	327	304	273		154						
170	291	287	265	232		121						
160	270	258	234	201		98.9						
150	247	228	210	178		84.1						
140	214	193	188	162		73.9						
130	173	151	137	140		68.0						
120	153	139	124	123		65.5						
110	88.8	75.5	119	12.4		25.7						



AVERAGE ELECTRON DENSITY											KP BELOW 4.5	
RAMEY AFB, PUERTO RICO											NOV 1961	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	28	29	24	26	26	27	26	24	26	25	25	25
KP	1.8	1.7	1.7	1.6	1.6	1.2	1.2	1.3	1.2	1.3	1.3	1.1
HMIN	240	234	222	216	215	208	224	105	108	107	107	106
RATIO	6.0	6.8	7.0	7.5	6.4	5.8	5.5	5.9	5.8	5.4	5.3	5.0
SCAT	42.5	37.8	38.3	37.0	46.7	49.0	50.2	34.4	34.8	37.4	37.9	40.7
NMAX	198	217	227	218	169	135	131	368	627	794	947	920
HMAXF	328	313	297	284	301	296	318	244	244	252	257	259
SHMAX	112	107	111	98	97	83	84	215	372	515	637	652
SHINF	670	721	750	712	574	464	454	1252	2141	2755	3308	3247
K	950	14.6	14.9	14.3	12.8	11.0	8.7	9.3	17.9	30.6	40.2	49.8
900	18.7	19.0	18.3	16.4	14.1	11.1	11.9	22.9	39.2	51.6	63.9	62.0
850	24.0	24.3	23.5	21.1	18.1	14.2	15.2	29.4	50.3	66.2	82.0	79.6
800	30.7	31.2	30.1	27.1	23.1	18.3	19.5	37.8	64.6	84.9	105	102
750	39.3	39.9	38.6	34.7	29.6	23.4	25.0	48.4	82.8	109	135	131
700	50.3	51.1	49.4	44.4	37.9	29.9	32.0	62.0	108	139	173	168
650	64.0	65.1	63.1	56.7	48.3	38.2	40.7	79.4	138	178	231	214
600	81.1	82.6	80.2	72.2	61.4	48.5	51.6	101	173	228	282	273
550	102	104	101	91.3	77.4	61.3	64.9	129	221	289	358	347
500	126	129	127	115	96.4	76.5	80.6	163	279	365	551	438
450	152	153	156	142	118	93.8	97.8	204	349	456	561	545
440	157	164	162	147	122	97.4	101	213	364	476	585	569
430	163	169	168	153	127	101	105	222	380	496	610	593
420	168	175	174	159	131	105	108	232	396	517	635	617
410	172	181	180	165	135	108	111	241	413	538	660	642
400	177	186	186	171	140	112	115	251	429	560	686	666
390	181	191	192	176	144	115	118	261	446	581	711	691
380	185	196	197	182	148	118	120	271	463	603	737	716
370	188	200	202	187	151	121	123	281	480	624	762	741
360	190	204	207	193	155	124	125	291	497	646	787	765
350	191	207	212	197	157	126	126	301	514	666	811	789
340	191	209	216	202	160	128	127	310	530	687	834	811
330	190	210	219	206	162	130	127	320	546	706	856	836
320	186	209	221	209	163	130	127	329	561	724	876	852
310	179	205	222	211	162	130	124	337	575	741	894	870
300	167	198	220	212	160	129	120	345	588	756	910	885
290	152	186	215	212	156	126	113	351	600	769	922	898
280	131	168	205	209	150	121	104	357	610	779	930	907
270	106	143	189	201	140	114	92.0	362	617	786	934	912
260	78.6	114	165	187	127	104	77.9	365	622	789	927	908
250	50.9	81.7	133	165	111	92.0	62.3	365	623	783	903	888
240	29.5	48.5	94.5	132	91.1	78.0	46.9	360	614	760	856	844
230	13.5	22.8	57.4	89.0	68.0	62.9	32.9	345	586	712	782	771
220	5.5	6.5	26.1	45.5	41.5	47.1	20.3	314	533	630	677	667
210	1.8	1.6	6.6	16.1	15.7	30.5	8.7	267	450	521	554	545
200	.1	.4	1.0	2.3	3.0	13.5	2.4	213	354	406	433	435
190					.9	5.8		160	265	314	338	353
180						.9		117	201	252	279	301
170								86.8	158	209	240	265
160								68.3	129	175	208	235
150								57.9	109	147	176	206
140								52.5	96.5	129	150	176
130								46.3	85.7	116	134	152
120								38.3	76.1	107	125	139
110								22.8	38.4	63.0	71.7	90.9
100								6.7				

AVERAGE ELECTRON DENSITY											KP BELOW 4.5		
RAMEY AFB, PUERTO RICO											NOV 1961		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
COUNT	23	22	19	16	20	11	12	25	27	28	26	28	
KP	1.0	1.1	1.4	1.4	1.0	1.3	1.5	1.6	1.5	1.5	1.5	1.8	
HMIN	108	107	107	107	108	109	99	203	206	236	236	235	
RATIO	4.8	4.9	5.0	5.1	5.5	6.0	6.2	6.9	5.8	5.4	5.8	5.8	
SCAT	41.3	40.5	41.3	35.6	39.2	36.6	34.9	38.9	49.1	50.4	44.6	44.7	
NMAX	922	864	962	1006	900	736	570	309	178	175	194	191	
HMAXF	263	265	263	265	258	253	255	277	236	337	329	329	
SHMAX	676	700	690	687	578	422	319	150	105	115	114	115	
SHINF	3276	3419	3406	3526	3138	2498	1951	1021	608	608	660	653	
KM													
950	49.3	52.1	51.3	54.5	47.3	37.4	29.8	17.8	11.1	13.4	14.2	14.2	
900	63.3	66.4	66.4	59.1	60.7	48.0	38.2	22.9	14.2	17.2	18.2	18.2	
850	81.2	85.8	85.3	89.8	77.9	61.7	49.1	29.4	18.3	22.0	23.4	23.3	
800	104	110	109	115	100	79.1	62.9	37.7	23.4	28.3	30.0	29.4	
750	134	141	140	148	120	101	80.7	48.3	30.0	36.2	38.4	38.3	
700	171	181	180	189	164	130	103	61.8	38.4	46.2	49.0	48.9	
650	217	231	230	242	210	166	132	79.0	49.0	58.8	62.4	62.3	
600	275	295	293	308	268	212	174	101	62.4	74.3	79.1	78.6	
550	354	374	371	391	340	270	214	127	75.8	93.2	99.3	99.0	
500	446	471	468	493	429	340	270	160	98.5	115	123	122	
450	555	586	582	613	535	425	337	158	121	138	149	146	
440	579	611	607	639	558	443	357	206	129	143	154	153	
430	601	636	632	665	582	462	367	214	131	147	159	158	
420	628	662	657	692	605	482	382	223	135	151	164	163	
410	652	688	683	719	630	501	397	231	140	155	169	167	
400	677	714	709	747	654	521	413	239	145	159	173	172	
390	702	740	735	774	679	541	429	248	149	163	177	176	
380	727	766	761	801	704	561	444	256	154	166	181	179	
370	752	792	787	828	728	581	460	264	158	168	184	182	
360	776	817	812	854	752	601	475	271	162	170	187	185	
350	799	841	836	879	776	620	490	278	166	175	188	186	
340	824	864	859	903	798	639	505	285	169	171	189	187	
330	847	885	880	926	819	657	518	291	171	179	187	185	
320	862	905	900	945	834	673	531	296	173	165	184	181	
310	879	922	917	964	857	689	543	300	174	157	177	174	
300	893	937	932	980	873	702	553	303	174	146	166	162	
290	905	948	943	992	886	714	562	303	172	131	151	147	
280	913	955	950	1000	896	724	568	301	167	112	132	126	
270	915	956	950	1000	901	730	572	294	160	93.3	111	101	
260	907	946	940	985	899	733	570	277	150	72.3	86.0	75.8	
250	880	915	914	949	884	727	558	251	135	50.4	58.4	53.0	
240	829	854	862	879	846	703	532	214	115	31.8	34.9	33.4	
230	748	761	779	774	776	751	489	164	69.5	17.1	15.9	18.0	
220	639	639	669	642	671	566	427	113	60.1	8.5	6.4	8.6	
210	521	513	546	507	539	448	364	69.9	28.7	3.2	1.3	3.9	
200	416	407	428	388	402	324	250	15.0	5.5	.4	.5	.9	
190	342	336	340	310	295	219	150	1.0					
180	298	292	283	258	223	153	101						
170	267	261	246	222	180	115	67.1						
160	239	234	217	193	150	91.8	47.7						
150	210	205	188	167	127	77.0	36.3						
140	182	174	160	144	109	67.6	30.0						
130	157	150	139	126	96.5	62.4	26.9						
120	144	138	130	116	91.0	58.6	25.9						
110	80.8	85.6	81.9	65.2	49.3	24.8	22.7						
100							12.2						



# TABLES OF IONOSPHERIC DATA

TABLE 1

RESOLUTE 94T+ CANADA (74N, 74E)																
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
f <sub>o</sub> F <sub>2</sub>	52	50	48	48	48	50	49	50	52	50	52	52	52	52	50	52
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																
f <sub>o</sub> F <sub>2</sub>	52	50	48	48	48	50	49	50	52	50	52	52	52	50	52	52
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																

SHEEP 140 MC TO 20.0 MC IN 15 SECONDS.

AUGUST, 1961

TABLE 1

KIRUNA+ SWEDEN (67N, 20+E)																
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
f <sub>o</sub> F <sub>2</sub>	53	44	34	38	40	46	49	50	55	56	50	50	56	56	56	56
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																
f <sub>o</sub> F <sub>2</sub>	53	44	34	38	40	46	49	50	55	56	50	50	56	56	56	56
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																

SHEEP 0.6 MC TO 15.0 MC IN 30 SECONDS.

AUGUST, 1961

TABLE 1

TROIS-ROCKS+ NEWFUNDLAND (59N, 74N, 19E)																
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
f <sub>o</sub> F <sub>2</sub>	52	50	48	48	48	50	49	50	52	50	52	52	52	50	52	52
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																
f <sub>o</sub> F <sub>2</sub>	52	50	48	48	48	50	49	50	52	50	52	52	52	50	52	52
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																

SHEEP 0.7 MC TO 25.0 MC IN 5 MINUTES. AUTOMATIC OPERATION.

AUGUST, 1961

TABLE 1

LULEA+ SWEDEN (65N, 22+E)																
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
f <sub>o</sub> F <sub>2</sub>	53	44	34	38	40	46	49	50	55	56	50	50	56	56	56	56
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																
f <sub>o</sub> F <sub>2</sub>	53	44	34	38	40	46	49	50	55	56	50	50	56	56	56	56
h'F <sub>2</sub>	245	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
MUF(3000)F <sub>2</sub>	29	29	30	31	30	29	28	28	30	29	28	27	27	27	27	27
M3000F <sub>2</sub>	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310
f <sub>o</sub> F <sub>1</sub>																
h'F <sub>1</sub>																
MUF(3000)F <sub>1</sub>																
M3000F <sub>1</sub>																

SHEEP 0.65 MC TO 25.0 MC IN 5 MINUTES. AUTOMATIC OPERATION.

AUGUST, 1961

TABLE 6

[illegible]

TABLE 8

[illegible]

AUGUST • 1961

SWEEP 1.0 MC TO 17.0 MC IN 16 SECONDS.

AUGUST • 1961

SWEEP 0.33 MC TO 20.0 MC IN 3 MINUTES.

		LFC55CLE, SWEDEN (04a,79a,18a,RE)																							TIME 15:00		
	HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
f6F2	MED	41	40	76	26	38	43	50	52	55	59	61	62	61	60	59	59	60	61	56	57	58	55	50	45		
	CNT	28	27	28	26	29	28	29	27	31	30	29	30	30	30	30	30	31	30	30	29	29	30	30	28		
	U																										
	LO																										
h'F2	MED					305	355	350	340	340	320	315	315	315	315	320	300	315	300	305	290	275					
	CNT					2	8	15	24	29	30	29	29	31	28	26	24	15	10	3	1						
	U																										
	LO																										
h'F	MED	265	260	260	260	250	230	225	210	205	205	205	200	200	200	200	205	210	225	230	240	240	240	250	255		
	CNT	27	23	25	26	29	27	28	28	30	30	30	29	30	29	29	30	27	26	27	30	29	27	29	28		
	U																										
	LO																										
f6M0000IF2	MED	280	270	270	280	280	280	280	280	280	290	300	290	290	300	300	290	300	305	310	300	300	290	280	280		
	CNT	28	26	28	26	29	30	29	31	30	30	29	31	31	31	31	31	31	30	30	30	29	29	28	27		
	U																										
	LO																										
f6F1	MED					285	335	375	295	420	435	440	440	440	440	430	420	400	390	350	310						
	CNT					2	10	18	24	30	30	30	30	31	30	28	25	15	10	3	1						
	U																										
	LO																										
f6E	MED					140	195	230	250	270	290	300	300	300	300	300	280	260	240	220	180	130	120	120			
	CNT	1				15	26	26	28	29	28	25	24	24	25	24	27	26	27	26	27	7	1	1			
	U																										
	LO																										
h'E	MED					305	310	305	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300		
	CNT					5	11	10	10	100	100	100	100	100	100	100	100	100	100	115	115	120	1				
	U																										
	LO																										
f6Ea	MED	31	30	30	31	30	35	40	37	39	46	54	42	40	40	39	37	37	35	35	29	24	23	24	30		
	CNT	31	30	31	31	31	29	27	28	29	30	29	31	31	31	30	30	30	31	30	30	30	28	28	31		
	U																										
	LO																										

	HQR	UPPSALA, SWEDEN (59.8N, 17.8E)																							TIME 15.00	
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
f6Z	WEO	26	42	38	37	37	45	50	53	59	60	65	66	65	64	63	61	61	62	64	66	67	65	58	50	
	CNT	26	26	28	29	31	28	28	31	30	30	31	31	31	31	31	31	31	31	31	30	29	30	27	29	
	LO																									
f6Z	WEO						490	460	245	340	310	310	305	315	325	300	310	300	265	260						
	CNT						3	11	20	26	27	27	29	28	28	28	24									
	LO																									
f6F	WEO	265	275	270	270	260	240	225	220	210	210	210	200	200	205	205	205	210	225	240	245	245	245	245	245	
	CNT	29	29	27	26	26	20	20	25	25	26	28	27	29	29	27	27	20	27	24	24	23	20	20	20	
	LO																									
IM3000IF2	WEO	270	270	265	270	280	300	295	300	295	300	300	310	300	300	300	300	300	300	300	300	300	290	290	290	
	CNT	24	24	26	27	29	27	27	28	28	29	29	29	29	29	29	29	29	28	28	28	28	28	25	25	
	LO																									
f6F1	WEO						320	300	420	430	450	450	470	460	465	450	430	440	400	340						
	CNT						6	12	23	28	30	31	31	29	31	29	21	19	10	2						
	LO																									
f6E	WEO	80	110	95	115	140	190	230	250	280	305	310	320	320	320	315	300	280	255	220	175	130	100	75	90	
	CNT	1	1	1	3	11	25	31	25	22	26	19	19	19	20	22	22	25	27	20	11	0	1	2	1	
	LO																									
f6E	WEO						120	115	110	105	105	100	100	100	100	100	100	105	105	110	115	115	120	136		
	CNT						3	1	1	1	24	27	25	28	28	24	23	25	24	22	23	6	6		1	
	LO																									
f6E1	WEO	23	24	30	31	31	34	39	45	47	47	48	49	47	44	44	44	40	37	30	25	24	25	24		
	CNT	29	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	29	29	
	LO																									

AUGUST • 1961

SWEEP 0.33 MC TO 20.0 MC IN 3 MINUTES.







TABLE 18

OTTAWA, CANADA 145.4N, 75.9W)

[illegible]

AUGUST, 1961

TABLE 20

AKITA, JAPAN (39.7N, 140.1E)

[illegible]

AUGUST, 1961

TABLE 17

ACCIDENTAL - JAPAN 145.4N. 141.7E)

[illegible]

AUGUST, 1961

TABLE 19

ROME, ITALY (41.8N, 12.5E)

[illegible]

AUGUST, 1981









TABLE 34

ROME, ITALY (41.8N, 12.5E)

[illegible]

SWEEP 1.4 MC TO 15.0 MC IN 5 MINUTES, AUTOMATIC OPERATION.

JULY, 1961

TABLE 36

TOKYO. 180AM 135-7N. 139.5E1

		TOKYO, JAPAN 135-27N, 139-52E																							
MOON		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	MED	59	55	54	51	50	52	62	69	67	64	62	64	67	69	71	70	68	70	72	74	72	66	62	61
	U																								
	LO	28	28	28	27	29	30	30	26	24	22	23	24	22	23	24	25	24	24	25	26	27	28	27	
	LI	54	54	48	45	45	50	56	64	60	58	58	55	62	65	65	64	64	56	61	63	57	56	56	
17F2	MED						315	310	300	305	345	355	405	375	355	350	355	340	310	300					
	U						8	19	22	10	13	9	13	19	18	23	25	20	20	20					
	LO																								
	LI																								
17F	MED	300	310	305	306	300	270	255	260	U	210	220	230	258	240	240	240	250	255	250	240	265	305	310	
	U																								
	LO	25	24	28	29	29	28	24	19	17	17	11	12	11	11	10	15	15	14	15	23	27	24	24	
	LI																								
18M3000F2	MED	275	275	275	275	280	290	300	300	590	280	275		280	280	285	285	250	250	295	290	290	275	270	270
	U																								
	LO	27	27	27	27	29	30	24	28	25	22	21	23	22	25	27	27	28	28	27	27	20	27	20	
	LI																								
16F1	MED						310	370	430	490	470	470	U	500	460	440	460	440	420	330					
	U						1	4	10	7	5	8	8	6	6	9	10	10	6	1					
	LO																								
	LI																								
16E	MED						U	U	U																
	U																								
	LO																								
	LI																								
17E	MED																								
	U																								
	LO																								
	LI																								
16E1	MED	40	33	34	37	22	31	37	45	60	66	56	52	55	62	66	62	60	60	66	50	45	46	35	
	U																								
	LO	28	28	28	27	29	30	30	26	24	22	23	24	22	23	24	25	24	24	25	26	27	28	27	
	LI	54	54	48	45	45	50	56	64	60	58	58	55	62	65	65	64	64	56	61	63	57	56	56	

JULY • 1964  
 CAMEO 1.0 MC TO 20.0 MC IN 20 SECONDS.

JULY • 1961

TABLE 33

WAKKANAI, JAPAN 14.5-6N, 141-7E1

[illegible]

SWEEP 1.0 MC TO 18.0 MC IN 1 MINUTE.

JULY, 1961

TABLE 34

AKITA, JAPAN 139-7N- 140.1E)

ACTIVITY, JAPAN 130°E/140°E		TIME, 135°E																							
HOUR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	MED	59	54	53	49	47	34	63	65	65	61	60	60	60	64	65	65	65	64	65	68	70	66	61	60
	CHI	19	15	16	18	23	26	30	30	30	28	28	27	27	28	30	30	30	30	30	30	27	24	21	21
	LO	54	52	49	45	44	50	57	61	58	58	55	58	55	56	60	59	58	59	59	61	64	66	58	51
	U																								
h'F2	MED						345	315	320	340	350	380	395	395	370	380	360	350	335	300	375				
	CNT						15	29	29	28	26	23	24	24	26	28	30	28	26	24	2				
	LO																								
	U																								
h'F	MED	290	295	300	300	300	245	240	240	240	230	210	216	216	235	230	240	240	245	246	270	255	200	205	205
	CNT	29	28	29	30	30	24	17	13	13	13	16	20	16	15	19	17	19	22	21	26	29	27	29	30
	LO																								
	U																								
IM3000/F2	MED	280	280	280	280	280	280	290	305	300	290	290	285	280	290	290	290	285	295	295	300	200	280	275	275
	CNT	19	15	16	18	23	26	30	30	28	28	26	26	27	27	28	30	30	30	30	27	24	21	21	
	LO																								
	U																								
f6F1	MED						320	380	420	450	460	460	480	480	470	460	450	430	410	390					
	CNT						9	15	16	15	17	16	19	17	16	20	23	24	18	5					
	LO																								
	U																								
f6E	MED						200	255	300	325	350	355	355	360	355	355	330	305	270	205					
	CNT						3	14	14	9	5	5	5	3	6	7	10	17	19	8					
	LO																								
	U																								
h'E	MED																								
	CNT																								
	LO																								
	U																								
f6Es	MED	30	35	36	38	41	43	64	70	82	60	62	67	61	67	60	61	63	61	63	65	50	50	50	50
	CNT	31	30	31	32	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
	LO																								
	U																								

SWEEP 1.6 MC TO 20.0 MC IN 20 SECONDS.

MAY 1961



TABLE 41

WHITE SANDS, NEW MEXICO (32.3N, 106.5W)

HOUR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
16F2	MED	53	53	51	50	46	43	55	60	78	83	81	85	91	91	94	90	84	92	78	75	98	83	56	51	55
	CNT	59	57	54	53	51	49	58	65	78	85	87	89	95	98	102	104	77	74	50	65	80	73	66	53	
	LO	48	46	47	45	43	40	51	59	67	72	76	80	83	82	84	79	75	75	71	65	83	56	51	48	
16F2	MED	34	34	35	34	34	32	34	35	34	32	35	37	37	37	34	35	38	32	30	3					
	CNT	3	14	15	20	26	31	27	29	30	32	30	31	27	29	29	30	32	31	27	29	29	29	29	29	
	LO	346	300	315	296	329	345	355	350	335	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	
16F	MED	515	310	500	295	300	310	266	240	229	215	218	212	213	220	225	225	225	238	256	252	247	263	281	305	
	CNT	31	31	31	31	31	31	31	31	31	31	28	30	29	27	30	29	49	31	31	31	31	31	30	31	
	LO	340	325	320	320	316	335	280	250	240	229	230	220	225	232	230	236	235	245	260	260	260	260	260	260	
16A0001F2	MED	245	245	270	270	265	265	255	285	275	267	265	265	245	245	270	278	285	290	300	300	285	280	270	260	
	CNT	30	30	30	30	31	31	31	31	30	30	30	31	29	30	29	30	31	31	31	31	31	31	30	30	
	LO	270	270	275	275	275	315	300	300	270	275	280	270	270	275	280	285	290	300	305	305	295	285	280	270	
16F1	MED	255	260	260	260	260	260	280	275	265	255	260	255	250	250	260	265	275	280	290	290	275	265	260	260	
	CNT																									
16E	MED	390	58	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	
	CNT																									
16E	MED	390	58	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	
	CNT																									
16E	MED	390	58	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	
	CNT																									
16E	MED	390	58	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	
	CNT																									
16E	MED	390	58	300	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310	310			

TABLE 42

MAGUIO, P. J. 116.4N. 120.6E)

	hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16 F2	MED	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	CNT	110	106	79	80	88	53	475	845	65	1035	100	112	114	116	115	109	120	133	115	155	168	124	123	124
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	110
	UO	117	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	110
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
16 F2	MED	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	CNT	110	106	79	80	88	53	475	845	65	1035	100	112	114	116	115	109	120	133	115	155	168	124	123	124
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	UO	117	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
16 F1	MED	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	CNT	110	106	79	80	88	53	475	845	65	1035	100	112	114	116	115	109	120	133	115	155	168	124	123	124
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	UO	117	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
16 E2	MED	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	CNT	110	106	79	80	88	53	475	845	65	1035	100	112	114	116	115	109	120	133	115	155	168	124	123	124
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	UO	117	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
16 E1	MED	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	CNT	110	106	79	80	88	53	475	845	65	1035	100	112	114	116	115	109	120	133	115	155	168	124	123	124
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	UO	117	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98
	LO	91	120	114	55	75	67	74	90	99	112	118	120	124	122	120	123	176	119	115	110	110	106	107	98

TABLE 43

CONCEPCION, CHILE (36.6S, 73.0W)

	HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	MED	56	49	49	50	43	35	37	74	82	95	100	114	110	110	108	105	101	100	86	78	74	56	56	56
	CNT	56	49	49	50	43	35	37	74	82	95	100	114	110	110	108	105	101	100	86	78	74	56	56	56
	LO	64	62	60	57	50	43	43	76	94	102	111	125	125	123	118	115	120	120	100	86	78	56	56	52
	LO	42	42	40	38	38	31	27	61	78	81	125	90	96	92	91	89	88	76	65	60	55	46	44	44
16F2	MED	275	285	280	260	230	2825	260	2375	225	230	220	250	275	2175	220	2775	230	240	220	230	240	250	230	320
	CNT	275	285	280	260	230	2825	260	2375	225	230	220	250	275	2175	220	2775	230	240	220	230	240	250	230	320
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	
16F2	MED	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	CNT	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	
16F2	MED	275	285	280	300	350	270	260	335	240	230	330	325	320	300	305	320	315	325	315	295	290	285	270	250
	CNT	275	285	280	300	350	270	260	335	240	230	330	325	320	300	305	320	315	325	315	295	290	285	270	250
	LO	29	29	29	28	28	28	28	28	30	31	31	31	31	31	31	30	30	28	27	27	29	29	29	29
	LO	270	280	260	310	350	300	295	350	340	340	340	340	340	340	330	335	330	330	330	305	300	300	300	300
16F1	MED	260	260	265	280	270	260	275	330	325	315	310	310	300	300	310	310	310	300	280	290	275	250	255	255
	CNT	260	260	265	280	270	260	275	330	325	315	310	310	300	300	310	310	310	300	280	290	275	250	255	255
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	
16E	MED	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	CNT	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	
16E	MED	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	CNT	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	
16E	MED	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	CNT	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	
16E	MED	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	CNT	275	280	270	245	210	240	230	250	255	235	235	250	255	235	250	255	240	230	240	250	270	270	270	270
	LO	29	29	29	28	28	28	28	28	30	31	31	31	30	30	31	30	31	29	28	28	29	29	29	29
	LO	320	320	310	280	270	310	240	230	240	230	220	225	220	230	235	240	240	230	240	250	270	320	340	

TABLE 40-40

RAYRO STATION (00.05, 120.00)

[illegible]

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

AUGUST, 1960

SWEEP 1.0 AL TO 25.0 MC IN 13.5 SECONDS.

AUGUST • 1960





TABLE 49

CHURCHILL, CANADA 158°40'N, 94°24'W

TIME 06:00

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	MED	52	52	50	51	50	50	54	52	54	60	61	62	62	65	65	67	66	63	62	60	58	53	54
	CNT	28	27	27	29	28	29	28	26	28	26	26	26	26	26	27	29	29	29	29	29	30	29	29
	U																							
	U																							
16F2	MED					460	470	480	510	480	520	540	540	500	480	460	450	450	430	470				
	CNT					4	13	16	16	15	16	20	22	24	24	26	24	24	25	18	6			2
	U																							
	U																							
16F	MED	280	320	300	300	300	250	250	240	240	220	220	210	210	210	220	220	240	250	280	300	300	310	300
	CNT	23	24	22	24	22	22	22	22	22	23	24	24	28	27	26	24	50	21	20	20	28	26	23
	U																							
	U																							
16M3000F2	MED	1	1				2	1	2	4	2	4	2	2	4	2	2	4	2	2	6	1	1	1
	CNT																							
	U																							
	U																							
16F1	MED					360	380	410	420	480	500	500	520	520	520	510	500	500	480	450	400			
	CNT					1	5	19	26	26	28	27	28	29	30	30	29	28	28	22	7	3		
	U																							
	U																							
16E	MED					220	260	310	320	360	390	390	390	390	390	380	370	350	330	320	300	290	270	160
	CNT					18	21	24	25	25	27	27	28	28	27	26	23	23	23	20	17	17	5	
	U																							
	U																							
16E	MED					420	420	410	410	395	405	400	405	400	405	405	405	410	410	415	420	410	410	150
	CNT					10	10	10	10	9	10	10	10	10	10	10	10	110	110	115	120	110	110	150
	U																							
	U																							
16E4	MED	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	70
	CNT	30	30	30	30	30	30	30	30	29	29	29	29	29	30	30	30	29	28	28	29	29	50	70
	U																							
	U																							

SWEEP 1.0 MC TO 17.0 MC IN 16 SECONDS.

JUNE, 1959

SWEEP 1.0 MC TO 17.0 MC IN 1 MINUTE.

JUNE, 1959

TABLE 50

PORTIERE, FRANCE 46°48'N, 4°51'W

TIME 0:00

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	MED CNT	80	78	72	68	68	74	80	80	83	87	87	78	87	87	95	86	87	85	86	87	88	85	86
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
	LO	30	30	30	30	30	30	30	30	30	30	29	28	30	30	30	30	30	30	30	28	29	30	
16F2	MED CNT	U	385	350	400	380	410	435	440	425	430	425	415	395	370	330	335							
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	6	7	17	17	27	25	23	27	25	29	28	25	29	25	15	6							
16F	MED CNT	320	318	310	318	302	265	253	248	242	232	230	230	230	235	235	230	250	250	250	270	270	260	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	30	30	30	29	30	29	27	28	22	23	23	24	22	18	21	23	21	23	21	26	26		
16I3000F2	MED CNT	230	238	235	238	244	255	260	260	250	250	250	245	250	250	250	250	260	260	268	265	220	228	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12		
16F1	MED CNT	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	27	27	27	27	27	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26		
16E	MED CNT	23	230	280	325	350	375	390	400	400	392	385	360	330	280	265	28							
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24		
16E	MED CNT	E	120	115	105	100	105	105	100	100	102	105	105	105	110	120	28							
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	24	29	29	30	30	28	30	30	29	29	30	30	30	30	30	30	30	30	30	30	30		
16E1	MED CNT	24	22	25	22	28	29	34	44	48	47	51	47	48	50	46	44	44	43	38	36	35	28	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	LO	30	30	30	30	30	29	30	30	29	30	30	30	30	30	30	30	30	30	30	30	30		

TABLE 51

RABAT, MOROCCO 33°52'N, 6°48'W

TIME 0:00

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	21
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16F2	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16F2	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16F2	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16F2	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16F2	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16E	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16E	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16E	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16E	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16E	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16E	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16E	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16E	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16E	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16E	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95	91	90	83	77	80	90	90	90	92	100	103	104	103	102	96	100	98	90	80	82	95	
	21	22	22	22	23	22	21	21	23	19	22	20	21	23	23	23	21	21	22	22	18	11	11	
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	
16E	300	385	362	412	395	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
	110	120	120	110	110	105	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16E	1	2	5	10	16	20	22	17	20	18	22	23	21	22	21	22	21	22	20	22	13	6	1	
	60	66	60	45	43	45	46	47	47	46	46	48	47	46	46	47	45	45	38	40	30	50	59	
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	28	28	29	29	30	29	
16E	95	95																						

SWEEP 1.0 MC TO 17.0 MC IN 1 MINUTE.

JUNE, 1959

TABLE 52

TAMARISSET, FRENCH 34° AFRIKA 12°48'N, 5°51'W

TIME 0:00

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16F2	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16F	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16F	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27	27	27	28	28	29	29	29	27	26	27	24	19	16	14
	U	0	5	9	0	75	62	50	93	56	106	115	124	115	140	144	145	144	145	142	130	130	131	126
	LO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	U	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16E	MED CAT	15	18	21	24	24	27	26	25	27														

SWEEP 1.0 MC TO 17.0 MC IN 1 MINUTE.

JUNE, 1959





TABLE 57

TANANARIVE, MADAGASCAR (18.9S, 47.5E)

[illegible]

SWEEP 1.25 MC TO 20.0 MC IN 10 MINUTES.

JUNÉ •

TABLE 59

VALLEY BAY (75.5S, 26.6W)

HALLEY BAY (79°55', 26°04')														TIME 30.0													
	MDR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
h'F2	MED	136	21	27	26	37	40	43	37	37	45	48			U	65	58	53	44	38	30	22	19	17	14	20	30
	CNT	17	21	19	19	11	16	17	16	21	25	26	28			28	29	28	29	26	26	25	23	19	1	22	21
	LO																										
h'F2	MED																										
	CNT																										
	LO																										
h'F	MED	455	440	415	400	380	370	330	285	250	265	250	240		235	230	235	230	250	250	270	305	330	380	410	400	
	CNT	17	19	10	17	16	19	16	17	20	22	23	24		28	28	28	29	28	25	24	22	19	1	1	2	
	LO																										
IM3000/F2	MED	225	230	235	235	240	245	250		270	260	280	280		U	300	310	330	320	325	370	310	270	280	270	255	240
	CNT	13	11	11	13	6	10	11	10	11	14	18	16		U	21	26	18	24	20	17	18	16	13	1	18	15
	LO																										
f <sub>o</sub> F1	MED																										
	CNT																										
	LO																										
f <sub>o</sub> F <sub>2</sub>	MED																										
	CNT																										
	LO																										
h'E	MED																										
	CNT																										
	LO																										
f <sub>o</sub> F <sub>1</sub>	MED	1110	22	22	22	24	125	135	135	135	135	14	13		12	12	11	12	115	12	12	12	105	135	125	13	
	CNT	25	26	23	24	22	19	17	15	15	17	19	22	17	17	17	17	21	16	21	20	21	19	27	25	14	
	LO																										

SWEEP 0.65 MC TO 25.0 MC IN 5 MINUTES. AUTOMATIC OPERATION.

JUNE, 1958

TABLE 50

PORT LOCKROY (64.8S, 63.5W)

[illegible]

SWEEP 0.67 MC TO 25.0 MC IN 5 MINUTES, AUTOMATIC OPERATION.

JUNE, 1958

TABLE 6. Continued

LWIRN, CONGO (2.35, 28.8E)

[illegible]

SWEEP 1.5% H. TO 20.0 MC IN 3 MINUTES.

MAY, 1958



TABLE 65

HOUR		XERGENELEN 1, 140-35E1												TIME 75-3E1												
		02	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
f6F2	MED CMT UQ LQ	42 34 10	34 32 15	33 34 16	33 32 16	44 55 60	55 60 62	63 63 20	65 66 25	68 68 26	67 67 29	68 68 29	67 68 25	68 68 25	72 72 24	72 72 25	73 73 27	76 76 28	78 78 30	80 80 28	81 81 27	82 82 28	84 84 27	84 84 27	84 84 27	
f6F2	MED CMT UQ LQ					U 505	550 550	598 598	610 610	642 642	635 635	655 655			625	640	610	598	600	520	470	365				
							2	19	26	26	27	26	21	19	16	15	20	26	23	25	7					
f6F	MED CMT UQ LQ					355	300	260	250	245	240	240	250		245	240	245	240	245	250	260	285	315	300	310	322
						17	23	23	24	26	27	23	20		18	21	22	24	17	25	26	21	24	21	24	20
f6X000IF2	MED CMT UQ LQ	235	230	230	220	225	220	220	215	215	205	210	210		212	210	210	220	220	222	240	255	262	260	245	235
		13	13	11	12	6	0	19	23	20	26	23	21		14	20	19	25	23	28	30	21	18	15	13	14
f6F1	MED CMT UQ LQ					U 310	390	440	480	500	530	540	560		570	560	560	550	520	500	470					
							2	20	25	26	27	28	24	21	22	20	25	27	24	25	8					
f6E	MED CMT UQ LQ	122				U 175	250	300	340	375	400	410	430		420	430	420	410	375	350	305	260	180	125	135	100
		2					4	17	24	25	26	18	17		15	13	16	16	19	25	21	16	20	20	2	
f6E	MED CMT UQ LQ					U 122	110	105	105	105	105	105	105		105	105	105	105	105	105	105	105	108	130	155	5
							2	10	22	23	27	29	27	25	25	24	25	24	20	24	23	22	8	1	2	
f6E1	MED CMT UQ LQ	29	32	31	33	34	32			42					45	44	45	40	48	34	32	31	28	31	32	32
		25	25	26	27	28	27	26	26	28	30	28	28		28	26	28	28	28	29	31	32	22	27	26	28

TABLE 6b

HOUR	TERRE ABELIE (66°75' N 40°E)												TIME 1350											
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16	04 17	05 21	06 19	07 15	08 13	09 13	10 10	11 16	12 14	13 20	14 20	15 28	16 27	17 26	18 24	19 20	20 18	21 16	22 14
16 FZ	MED CNT	30 24	01 18	02 20	03 16																			

TABLE 67

KESGÜLEN 11, 149+55, 70+3(E)													TIM: 75,1											
HOUR													16	17	18	19	20	21	22	23				
16F2	MEQ	18	16	35	34	44	50	60	67	72	70	77	77	78	77	80	78	75	70	67	66	58	52	48
	CNT	19	16	13	14	15	22	28	27	25	25	21	18	20	23	25	28	27	26	24	23	22	18	16
	LO																							
16F2	MEQ	628	615	588	565	605	600	588	595	548	552	530	503	510	450									
	CNT	6	19	22	21	23	22	24	19	22	26	23	23	9	1									
	LO																							
16F	MEQ	302	370	390	400	390	312	270	255	245	245	240	228	238	235	235	245	245	250	265	295	275	300	300
	CNT	20	18	19	19	17	22	24	25	27	25	21	18	22	22	22	23	25	28	25	24	23	19	17
	LO																							
16M300IF2	MEQ	235	230	225	222	240	250	220	210	205	220	210	210	212	210	220	225	240	245	265	260	255	245	240
	CNT	14	13	11	10	9	8	23	27	27	13	22	19	16	20	21	20	27	27	29	20	18	17	14
	LO																							
16F1	MEQ					370	440	480	540	550	570	580	580	580	570	550	520	490	420					
	CNT					7	20	24	24	24	22	22	19	21	25	24	21	9	1					
	LO																							
16E	MEQ	120	9	1	6	3	230	288	330	360	390	410	410	415	410	405	380	372	310	280	212			
	CNT	9				4	17	20	22	23	22	17	11	10	12	15	13	15	10	10	12	3	138	138
	LO																							
16E	MEQ	4	2	7	3	3	5	18	21	22	21	20	18	18	18	18	21	20	16	13	10			
	CNT																							
	LO																							
16Ea	MEQ	21	24	16	22	20	26	16																
	CNT	25	26	27	26	24	29	27	27	27	45	44	43	42	36	32	35	27	24	25	26	25	30	28
	LO																							

TABLE 68

TERRE MOELLE 140.75s, 140.75EL																								TIME 135.5s		
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	'3	14	15	16	17	18	19	20	21	22	23		
f6f2	MED	U	48	50	56	58	58	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	CNT	14	10	10	16	19	18	17	3	62	19	70	70	74	66	69	52	52	70	70	58	63	58	55		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
n'f2	MED	U	45	55	50	52	58	51	60	50	58	55	50	55	52	58	5-5	466	455	485	402	400	J			
	CNT	46	5	2	5	12	14	17	13	11	13	14	12	13	11	14	18	19	19	15	11	6	1			
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
n'f	MED	3.5	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		
	CNT	23	19	24	23	27	26	22	21	16	10	6	7	12	13	18	22	23	25	20	26	30	316	322		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
(M300)F2	MED	U	255	265	256	U	245	220	U	U	218	222	2	210	5	8	225	230	240	245	242	250	245	240		
	CNT	3	6	7	8	9	10	16	12	11	8	12	8	6	5	8	12	18	11	17	12	6	6	7		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
f6f1	MED	290	310	310	34C	380	430	460	500	500	500	510	520	510	490	480	450	450	420	400	340	340	340	340		
	CNT	1	2	1	3	9	18	23	25	33	20	15	15	14	13	17	20	25	19	18	12	5	5	5		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
f6e	MED	E	145	162	210	242	288	310	335	352	365	375	375	370	365	355	340	325	395	270	240	175	150	E		
	CNT	10	11	10	11	18	22	17	21	24	14	8	15	8	11	15	13	18	21	22	17	10	10	7		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
n'e	MED	E	105	125	155	185	205	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380		
	CNT	12	11	5	13	21	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
f6eS	MED	33	35	31	28	31	26	29	28	29	27	26	25	25	25	22	24	34	32	29	30	27	28	28		
	CNT	29	28	31	28	30	29	28	29	29	27	26	25	25	25	22	23	34	32	29	30	27	28	28		
	LQ	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U		



TABLE 73

TERRE ADRI. 166.75. 160.00)

TIME 135.0E

[illegible]

SWEEP 1.2 MC TO 17.0 MC IN 1 MINUTE.

SEPTEMBER, 1957

TABLE 75

MARION 1 • (46+85 • 37+9E)

TIME 0.0

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2 MED CNT LO	U 25 15	U 26 13	U 26 13	U 26 13	U 33 16	U 68 21	U 86 24	99 23	112 24	122 27	124 28	130 26	139 25	146 24	159 24	168 22	176 21	184 21	194 16	201 16	211 16	220 16	228 15	235 15
f2F2 MED CNT LO							230	245 2	250 3	255 5	250 7	250 4	255 3											
f1F MED CNT LO				U 280	230 21	235 25	230 24	230 22	235 22	230 23	230 22	230 22	235 24	240 25	240 25	240 24	240 22	240 22	240 22	240 22	240 22	240 22	240 22	240 22
f3C001F2 MED CNT LO	U 270 8	U 260 7	U 270 6	U 280 6	U 295 9	U 320 21	U 310 24	U 300 23	U 290 24	U 285 23	U 285 27	U 285 26	U 290 25	U 300 24	U 305 24	U 310 22	U 320 22	U 335 19	U 350 17	U 365 10	U 385 5	U 405 6	U 420 7	U 435 7
f6F1 MED CNT							360 1																	
f6E MED CNT					190 11	260 12	290 12	320 10	340 10	350 12	360 12	370 12	380 12	390 11	400 11	410 11	420 11	430 11	440 11	450 11	460 11	470 11	480 11	490 11
f6E MED CNT	U 24	E 22	U 21	U 21	E 20	U 23	U 25	24 24	21 23	23 24	24 24	25 24	25 24	23 23	23 23	22 22	22 22	21 21	22 22	20 20	21 21	21 21	21 21	21 21

SWEEP 1.6 MC TO 19.0 MC IN 18 SECONDS.

AUGUST, 1957

TABLE 74

IBADAN, NIGERIA (7.4N, 3.9E)

TIME 0.0

[illegible]

SWEEP 0.67 MC TO 25.0 MC IN 5 MINUTES, AUTOMATIC OPERATION.

AUGUST, 1957

TABLE 76

REFUGEE 14 (1990) 5, 70-76

ME 75.0E

[illegible]

SWEEP 0.88 MC TO 14.14 MC IN 10 MINUTES. AUTOMATIC OPERATION.

AUGUST, 1957



TABLE 76

KERGUELEN L. (49°45' 70.3E)

HOUR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f <sub>o</sub> F2	MEQ	18	18	20	20	21	22	23	27	55	80	94	110	118	118	120	123	108	50	71	60	32	22	22	18
	CNT	13	14	11	15	12	15	13	13	10	21	23	17	13	11	6	5	3	1	6	9	22	22	16	10
	UQ																								
h'F2	MEQ													U	U	230									
	CNT													235	230	3									
	UQ																								
h'F	MEQ	270	275	300	300	305	300	298	275	238	225	230	228	228	225	228	218	210	205	218	210	205	235	250	248
	CNT	11	13	8	13	9	13	16	22	28	29	28	28	26	28	30	28	28	20	24	27	23	16	14	8
	UQ																								
IM3000IF2	MEQ	292	280	260	275	265	270	275	275	320	335	320	315	315	308	310	290	325	310	335	340	312	302	345	
	CNT	4	5	5	9	7	11	10	9	7	11	18	11	5	2	2	1	1	4	5	3	17	14	10	3
	UQ																								
f <sub>o</sub> F1	MEQ																								
	CNT																								
	UQ																								
f <sub>o</sub> E	MEQ																								
	CNT																								
	UQ																								
h'E	MEQ																								
	CNT																								
	UQ																								
f <sub>o</sub> E <sub>s</sub>	MEQ	16	15	19	16	16	16	15	16	16	22	22	17	20	18	19	17	18	15	20	16	18	19	24	27
	CNT	25	25	26	26	24	23	21	18	22	22	22	17	20	18	19	17	18	15	20	16	18	19	24	27
	UQ																								

SWEEP 0.488 MC TO 14.14 MC IN 10 MINUTES. AUTOMATIC OPERATION.

JULY, 1957

TABLE 77

TERRE ADELIE (66°75' 140.0E)

HOUR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
f <sub>o</sub> F2	MEQ	U	36	35	33	32	32	30	43	48	62	58	66	71	70	62	50	62	60	62	55	55	54	46	44	
	CNT	UQ	14	17	12	12	10	7	9	7	6	7	4	5	3	3	6	10	8	8	8	7	9	11	12	
h <sub>o</sub> F2	MEQ																									
	CNT	UQ																								
h <sub>o</sub> F	MEQ	258	268	285	300	310	285	280	270	260	258	250	240	240	242	250	245	255	250	250	250	255	250	250	250	
	CNT	UQ	22	16	20	17	13	11	13	15	19	16	15	16	19	12	15	19	11	22	20	19	21	23	22	
IM3000IF2	MEQ	U	300	295	285	255	262	258	270	265	260	300	290	335	275	285	310	298	280	270	265	300	295	300	258	262
	CNT	UQ	1	5	4	3	2	2	3	1	3	3	1	1	3	1	1	2	3	5	5	2	4	4	2	4
f <sub>o</sub> F1	MEQ																									
	CNT	UQ																								
f <sub>o</sub> E	MEQ																									
	CNT	UQ																								
h <sub>o</sub> E	MEQ																									
	CNT	UQ																								
f <sub>o</sub> E <sub>s</sub>	MEQ	19	19	18	18	19	17	19	18	19	19	27	26	28	27	26	29	22	25	19	20	35	21	18	22	
	CNT	UQ	22	23	21	20	19	21	20	20	19	17	15	15	17	12	16	15	17	17	18	18	21	23	22	

SWEEP 1.2 MC TO 17.0 MC IN 1 MINUTE.

AUGUST, 1957

TABLE 79

TERRE ADELIE (66°75' 140.0E)

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f <sub>o</sub> F2	MEQ	U <sub>34</sub>	U <sub>36</sub>	U <sub>37</sub>	U <sub>33</sub>	U <sub>27</sub>	U <sub>21</sub>	U <sub>30</sub>	U <sub>42</sub>	U <sub>52</sub>	U <sub>63</sub>	U <sub>65</sub>	U <sub>62</sub>	U <sub>75</sub>	U <sub>78</sub>	U <sub>71</sub>	U <sub>60</sub>	U <sub>67</sub>	U <sub>62</sub>	U <sub>61</sub>	U <sub>47</sub>	U <sub>50</sub>	U <sub>45</sub>	U <sub>41</sub>
	CNT	11	12	10	12	7	5	13	8	8	10	6	6	4	5	7	6	10	8	10	9	12	12	7
	UQ																							
h'F2	MEQ																							
	CNT																							
	UQ																							
h'F	MEQ	260	260	270	270	272	280	290	280	270	250	250	245	250	250	250	250	250	250	250	250	240	245	245
	CNT	23	22	19	17	15	13	11	15	19	23	20	19	18	18	20	19	17	21	23	26	20	25	24
	UQ																							
(M3000)F2	MEQ	U <sub>275</sub>	U <sub>250</sub>	U <sub>265</sub>	U <sub>260</sub>	U <sub>280</sub>	U <sub>255</sub>	U <sub>310</sub>	U <sub>260</sub>	U <sub>280</sub>	U <sub>288</sub>	U <sub>278</sub>	U <sub>285</sub>	U <sub>300</sub>	U <sub>272</sub>	U <sub>250</sub>	U <sub>290</sub>	U <sub>285</sub>	U <sub>290</sub>	U <sub>288</sub>	U <sub>282</sub>	U <sub>290</sub>		
	CNT	4	1	1	1	1	3	3	1	2	1	2	4	2	1	4	3	6	1	4	4	2	1	
	UQ																							
f <sub>o</sub> F1	MEQ																							
	CNT																							
	UQ																							
f <sub>o</sub> E	MEQ																							
	CNT																							
	UQ																							
h'E	MEQ																							
	CNT																							
	UQ																							
f <sub>o</sub> E <sub>s</sub>	MEQ	26	27	24	25	21	23	23	24	23	25	22	16	20	23	24	21	25	24	25	22	26	28	25
	CNT																							
	UQ																							

SWEEP 1.2 MC TO 17.0 MC IN 1 MINUTE.

JULY, 1957

TABLE 80

HALLAY BAY (75°55' 28.6W)

Wavelength (nm) 1750-2300																								
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f <sub>o</sub> F2	MEQ	20	19	26	26	32	315	30	32	31	38	40	52	575	58	52	405	305	23	18	175	175	17	175
	CNT	25	25	24	23	23	24	24	25	25	23	25	26	27	26	29	28	26	27	23	26	26	23	25
h'F2	MEQ																							
	CNT																							
h'F	MEQ	380	365	370	360	360	340	310	275	250	250	245	230	225	220	225	225	230	235	260	300	350	350	360
	CNT	24	25	23	20	24	25	25	25	26	26	27	25	29	29	27	27	27	26	26	22	24	23	23
IM3000IF2	MEQ	230	230	245	215	250	235	255	255	250	275	260	270	280	325	315	305	310	285	285	250	250	245	235
	CNT	10	9	6	3	2	1	8	4	4	3	2	5	10	10	9	12	10	7	5	8	8	7	9
f <sub>o</sub> F1	MEQ																							
CNT																								
f <sub>o</sub> E	MEQ																							
CNT																								
h'E	MEQ																							
CNT																								
f <sub>o</sub> E <sub>s</sub>	MEQ	12	135	15	11	155	11	13	13	12	13	15	14	16	15	165	15	11	11	105	11	13	12	13
	CNT	22	22	26	23	24	24	22	23	23	25	22	21	20	23	24	23	25	26	23	20	26	23	24

SWEEP 0.465 MC TO 25.0 MC IN 5 MINUTES. AUTOMATIC OPERATION.

JULY, 1957

TABLE 81  
LULEÅ, SWEDEN (65.4°N, 22.1°E)

HOUR	TIME 15:00																		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
16F2	MED CMT UO LO	73 13	71 14	70 20	74 21	70 23	73 20	77 16	80 21	75 23	73 20	73 16	72 20	70 17	70 17	72 20	73 25	70 23	70 21
16F2	MED CMT UO LO	405 2	440 8	425 12	410 10	415 17	420 12	430 13	440 18	450 13	460 18	470 13	475 15	480 16	470 12	475 13	480 11	475 9	470 2
16F	MED CMT UO LO	310 14	330 14	310 18	280 19	260 19	250 20	240 17	210 19	220 20	225 20	250 12	255 6	250 7	250 6	255 10	260 13	265 21	260 20
16F	MED CMT UO LO	250 7	240 9	240 15	250 16	250 21	250 19	250 15	250 18	250 18	250 17	250 17	250 17	250 17	250 17	250 17	250 17	250 17	250 17
16F1	MED CMT UO LO	360 6	380 11	410 17	450 14	490 14	520 8	530 14	560 14	560 14	560 14	560 14	560 14	560 14	560 14	560 14	560 14	560 14	560 14
16E	MED CMT UO LO	180 1	180 1	200 10	250 8	320 15	330 11	340 3	360 4	370 3	370 3	370 3	370 3	370 3	370 3	370 3	370 3	370 3	370 3
16E	MED CMT UO LO	110 1	190 1	120 1	135 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8	110 8
16E4	MED CMT UO LO	37 5	27 7	26 15	28 20	33 25	37 19	37 6	37 10	37 7	37 6	37 5	37 5	37 5	37 5	37 5	37 5	37 5	37 5

SWEEP 1.5 MC TO 25.0 MC IN 10 MINUTES. AUTOMATIC OPERATION.

JUNE, 1957

TABLE 83  
LULEÅ, CONGO (2.35°S, 28.8°E)

HOUR	TIME 20:00																		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
16F2	MED CMT UO LO	50 21	49 24	42 22	36 20	27 21	23 19	38 27	80 28	84 27	94 27	100 27	104 26	104 26	104 26	104 26	104 26	104 26	104 26
16F2	MED CMT UO LO	235 26	230 27	232 28	235 22	240 18	250 24	252 25	240 25	240 16	240 16	240 12	240 12	240 12	240 12	240 12	240 12	240 12	240 12
16F	MED CMT UO LO	235 26	230 27	232 28	235 22	240 18	250 24	252 25	240 25	240 16	240 16	240 12	240 12	240 12	240 12	240 12	240 12	240 12	240 12
16F1	MED CMT UO LO	315 2	325 19	335 19	340 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18	345 18
16E	MED CMT UO LO	212 15	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28	212 28
16E	MED CMT UO LO	116 16	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20	116 20
16E4	MED CMT UO LO	17 27	20 29	20 30	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26	22 26

SWEEP 1.25 MC TO 20.0 MC IN 10 MINUTES. AUTOMATIC OPERATION.

JUNE, 1955

TABLE 82  
LULEÅ, CONGO (2.35°S, 28.8°E)

HOUR	TIME 30:00																		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
16F2	MED CMT UO LO	100 34	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24
16F2	MED CMT UO LO	255 17	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20
16F	MED CMT UO LO	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23
16F1	MED CMT UO LO	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3
16E	MED CMT UO LO	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1
16E	MED CMT UO LO	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1
16E4	MED CMT UO LO	37 5	27 7	26 15	28 20	33 25	37 19	37 6	37 10	37 7	37 6	37 5	37 5	37 5	37 5	37 5	37 5	37 5	37 5

SWEEP 1.25 MC TO 25.0 MC IN 10 MINUTES. AUTOMATIC OPERATION.

JUNE, 1957

TABLE 84  
LULEÅ, CONGO (2.35°S, 28.8°E)

HOUR	TIME 30:00																		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
16F2	MED CMT UO LO	100 34	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24	100 24
16F2	MED CMT UO LO	255 17	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20	255 20
16F	MED CMT UO LO	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23	230 23
16F1	MED CMT UO LO	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3	300 3
16E	MED CMT UO LO	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1	180 1
16E	MED CMT UO LO	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1	110 1
16E4	MED CMT UO LO	37 5	27 7	26 15	28 20	33 25	37 19	37 6	37 10	37 7	37 6	37 5	37 5	37 5	37 5	37 5	37 5	37 5	37 5

SWEEP 1.25 MC TO 20.0 MC IN 10 MINUTES. AUTOMATIC OPERATION.

MAY, 1955



TABLE 86

LWIRD, CONGO (12.35°, 26.8E)

TIME 30.0E

TABLE 85

LWIRD, CONGO (12.35°, 26.8E)

TIME 30.0E

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	ME0 CNT LO	64 18	42 17	40 19	38 20	32 17	28 21	22 24	74 21	72 23	80 24	93 21	102 19	111 17	106 21	110 26	108 26	102 23	100 25	104 24	104 25	104 25	104 25	104 25
h'F2	ME0 CNT LO							240 16	252 20	250 21	310 21	322 18	350 16	350 17	345 20	305 25	290 26	280 17	1					
h'F	ME0 CNT LO	195 22	210 21	235 21	252 18	240 17	238 14	225 19	215 17	210 21	200 20	198 14	192 12	190 11	200 10	200 11	230 14	245 17	240 21	235 14	210 23	210 23	200 23	200 22
(M3000)F2	ME0 CNT LO	344 18	319 17	303 19	300 19	330 20	352 17	359 20	348 21	314 22	284 24	282 18	277 18	277 16	280 18	301 25	297 25	291 23	292 22	306 21	319 21	337 21	341 22	348 18
f6F1	ME0 CNT									430 1	440 12	450 14	455 13	450 12	450 12	430 14	405 6							
f6E	ME0 CNT																							
h'E	ME0 CNT																							
f6Es	ME0 CNT																							

SWEET 1.25 MC TO 20.0 MC IN 10 MINUTES. AUTOMATIC OPERATION.

APRIL, 1955

SWEET 1.25 MC TO 20.0 MC IN 10 MINUTES. AUTOMATIC OPERATION.

TABLE 88

LULEA, SWEDEN (65.5°N, 22.1E)

TIME 15.0E

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	ME0 CNT LO	40 17	40 16	41 16	43 20	45 16	45 16	47 11	47 11	47 12	47 12	47 8	51 8	51 8	47 12	46 18	46 18	45 17	45 18	45 18	45 18	45 18	45 18	45 18
h'F2	ME0 CNT LO																							
h'F	ME0 CNT LO	250 14	250 14	250 11	210 16	210 16	210 16	200 16	200 16	200 16	200 16	200 16	200 16	200 16	200 16	200 16	210 15	220 13	240 16	240 16	240 16	240 16	240 16	240 16
(M3000)F2	ME0 CNT LO																							
f6F1	ME0 CNT																							
f6E	ME0 CNT																							
h'E	ME0 CNT																							
f6Es	ME0 CNT																							

SWEET 1.5 MC TO 10.0 MC IN 9 MINUTES. AUTOMATIC OPERATION.

AUGUST, 1954

SWEET 1.5 MC TO 10.0 MC IN 9 MINUTES. AUTOMATIC OPERATION.

TABLE 87

LULEA, SWEDEN (65.5°N, 22.1E)

TIME 15.0E

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	ME0 CNT LO	25 5	25 8	26 10	26 10	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12	27 12
h'F2	ME0 CNT LO																							
h'F	ME0 CNT LO	245 2	200 3	240 7	200 17	200 17	200 17	200 17	200 17	200 17	200 17	200 17	200 17	200 17	200 17	200 17	210 19	210 16	240 15	240 15	240 15	240 15	240 15	240 15
(M3000)F2	ME0 CNT LO																							
f6F1	ME0 CNT																							
f6E	ME0 CNT																							
h'E	ME0 CNT																							
f6Es	ME0 CNT																							

SWEET 1.5 MC TO 10.0 MC IN 9 MINUTES. AUTOMATIC OPERATION.

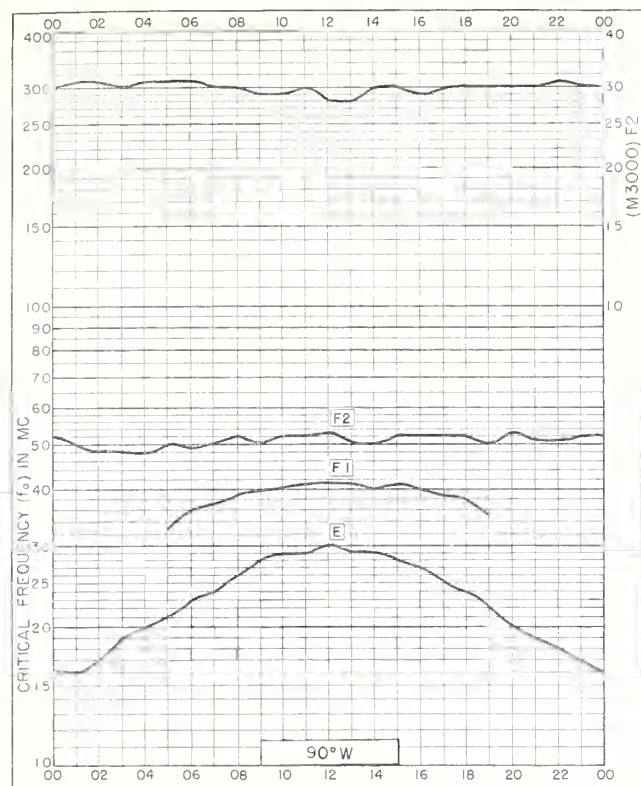


Fig. 1. RESOLUTE BAY, CANADA  
74.7°N, 94.9°W  
AUGUST 1961

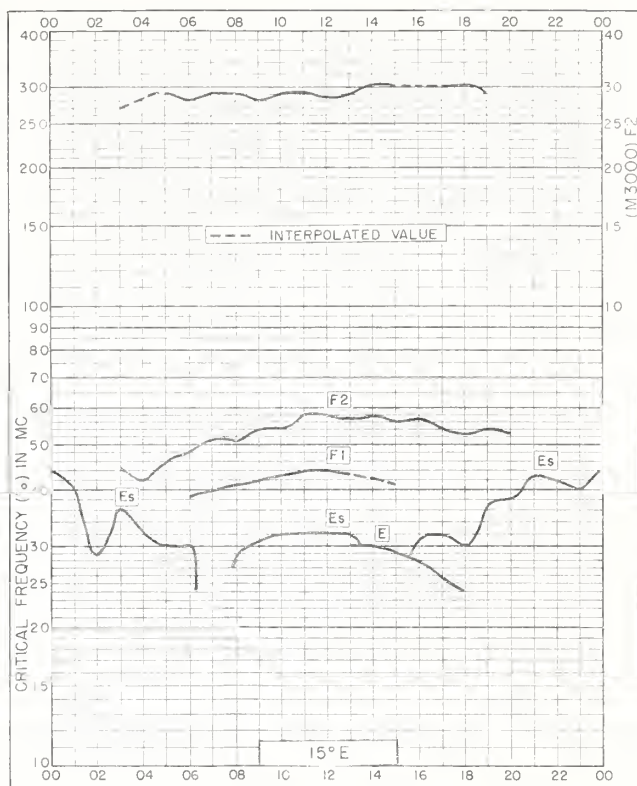


Fig. 2. TROMSØ, NORWAY  
69.7°N, 19.0°E  
AUGUST 1961

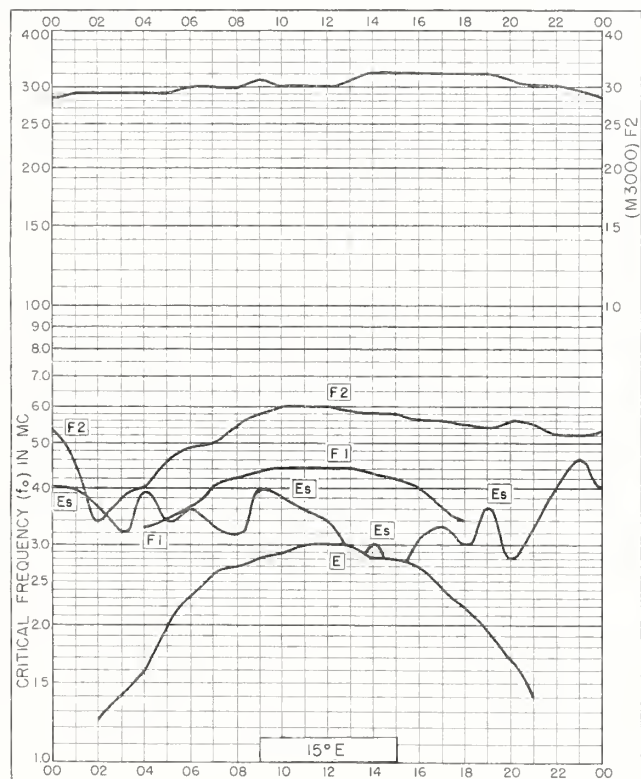


Fig. 3. KIRUNA, SWEDEN  
67.8°N, 20.4°E  
AUGUST 1961

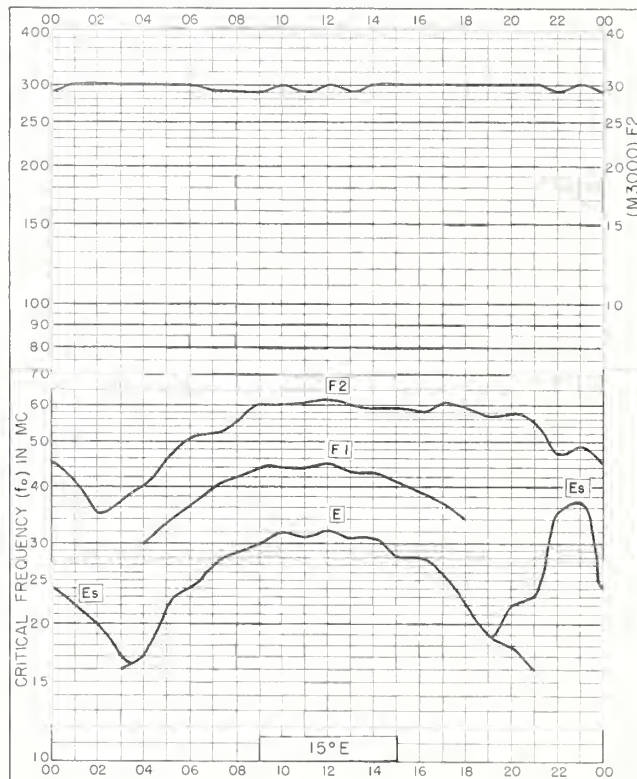


Fig. 4. LULEÅ, SWEDEN  
65.6°N, 22.1°E  
AUGUST 1961

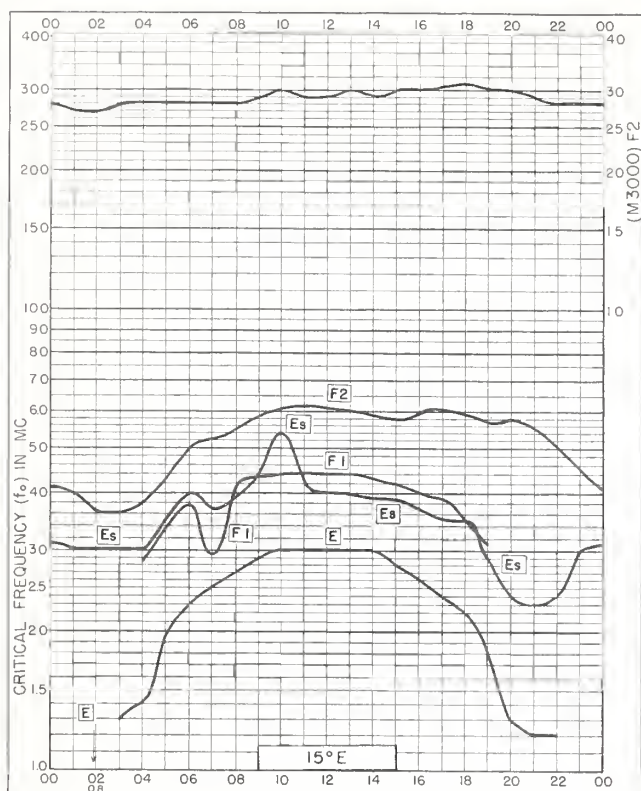


Fig. 5. LYCKSELE, SWEDEN  
64.7°N, 18.8°E

AUGUST 1961

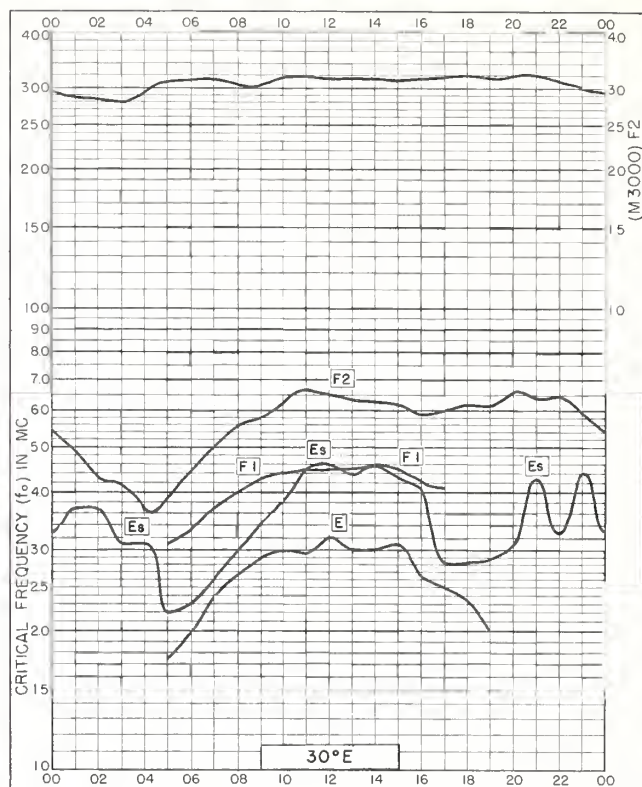


Fig. 6. NURMIJARVI, FINLAND  
60.5°N, 24.6°E

AUGUST 1961

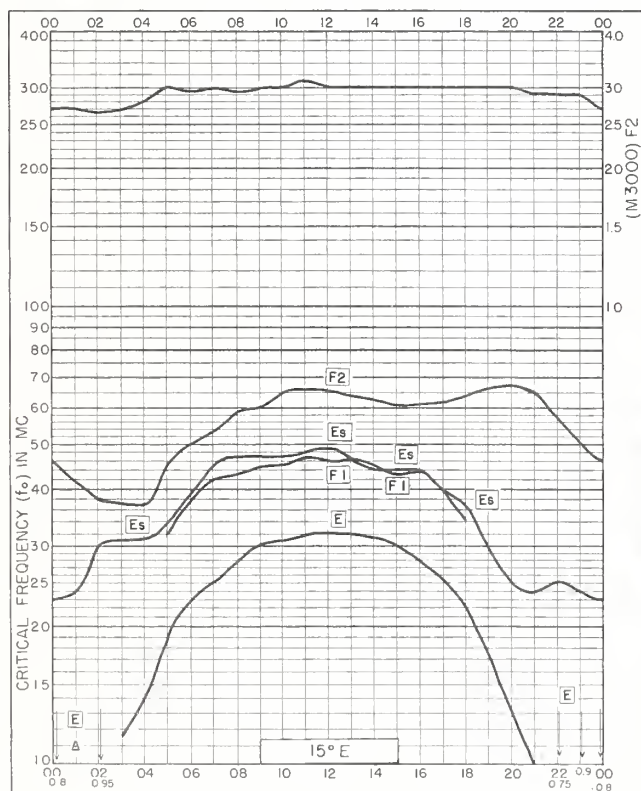


Fig. 7. UPPSALA, SWEDEN  
59.8°N, 17.6°E

AUGUST 1961

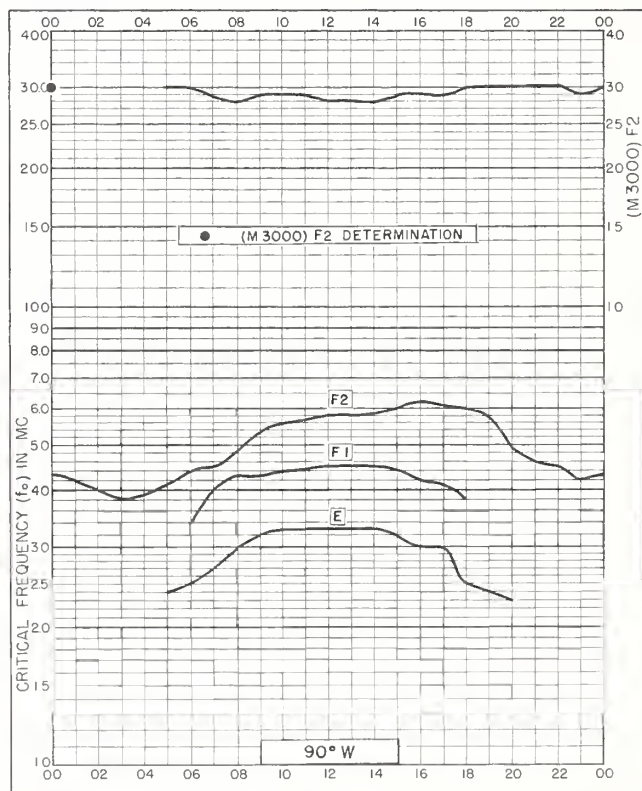


Fig. 8. CHURCHILL, CANADA  
58.8°N, 94.2°W

AUGUST 1961



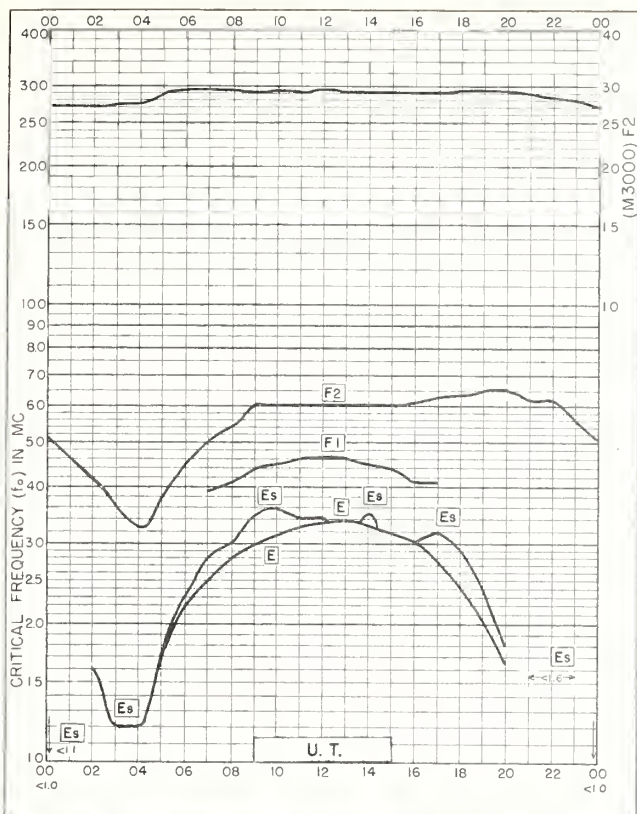


Fig. 9. INVERNESS, SCOTLAND  
57.4°N, 4.2°W

AUGUST 1961

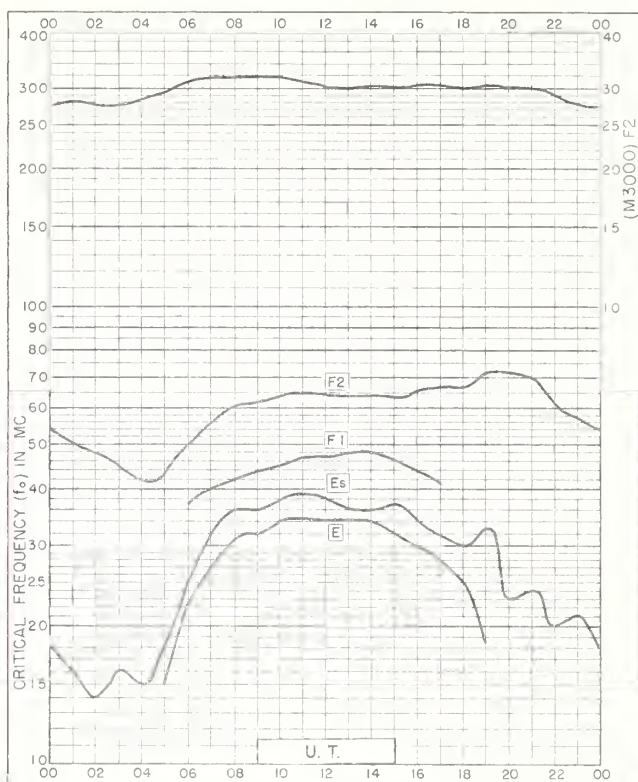


Fig. 10. SLOUGH, ENGLAND  
51.5°N, 0.6°W

AUGUST 1961

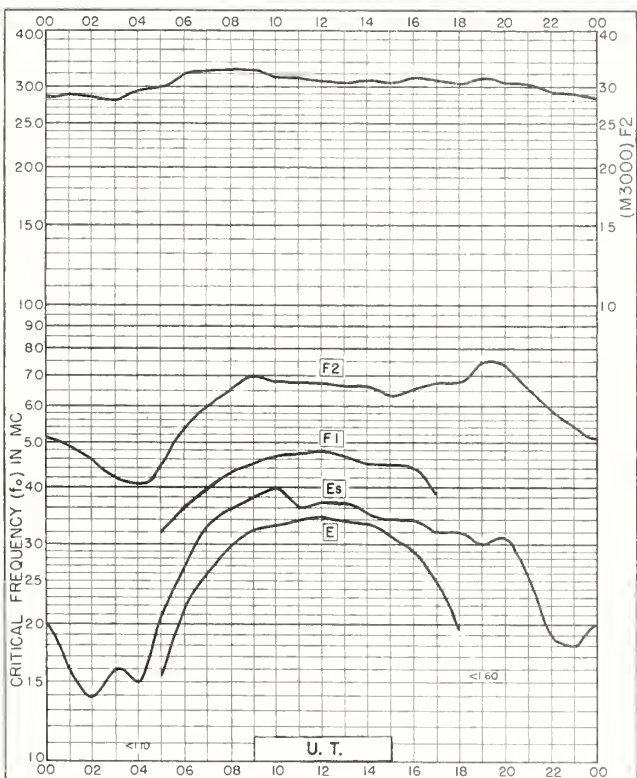


Fig. 11. DOORBES, BELGIUM  
50.1°N, 4.6°E

AUGUST 1961

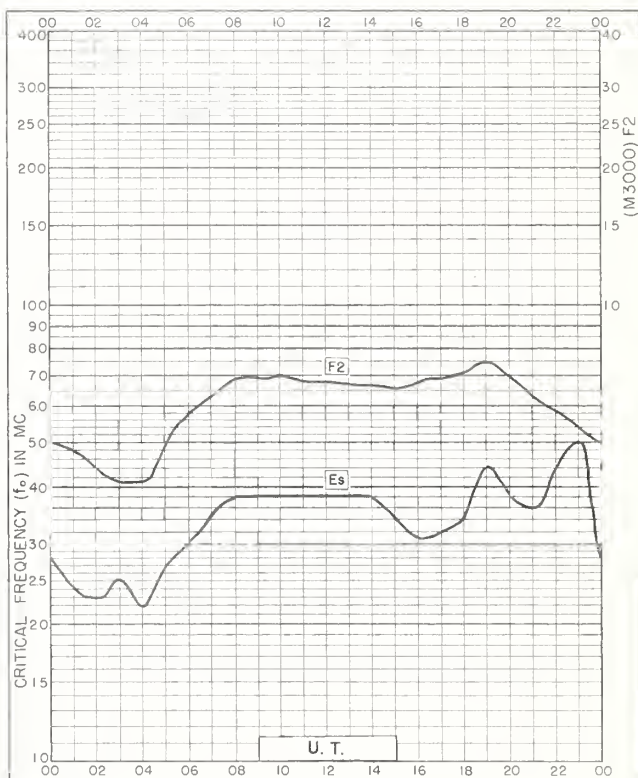


Fig. 12. PRUHONICE, CZECHOSLOVAKIA  
50.0°N, 14.6°E

AUGUST 1961

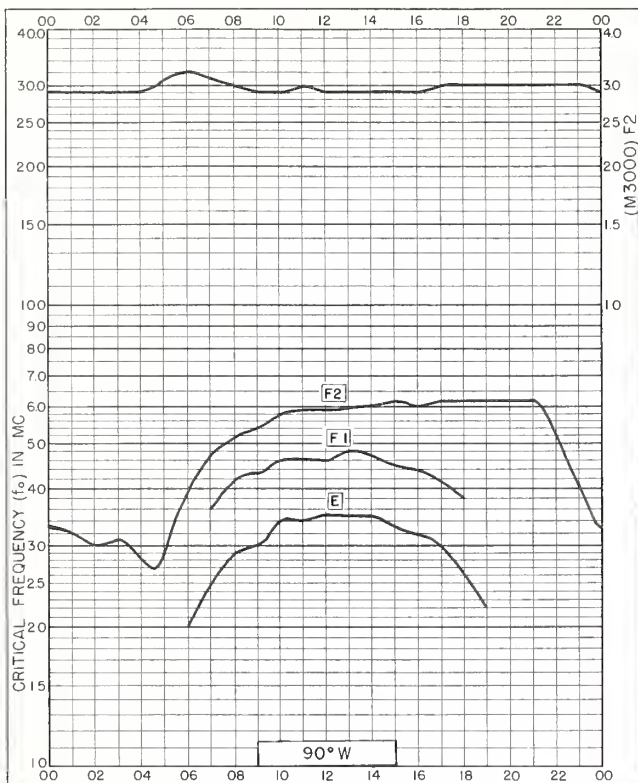


Fig. 13. WINNIPEG, CANADA  
49.9°N, 97.4°W

AUGUST 1961

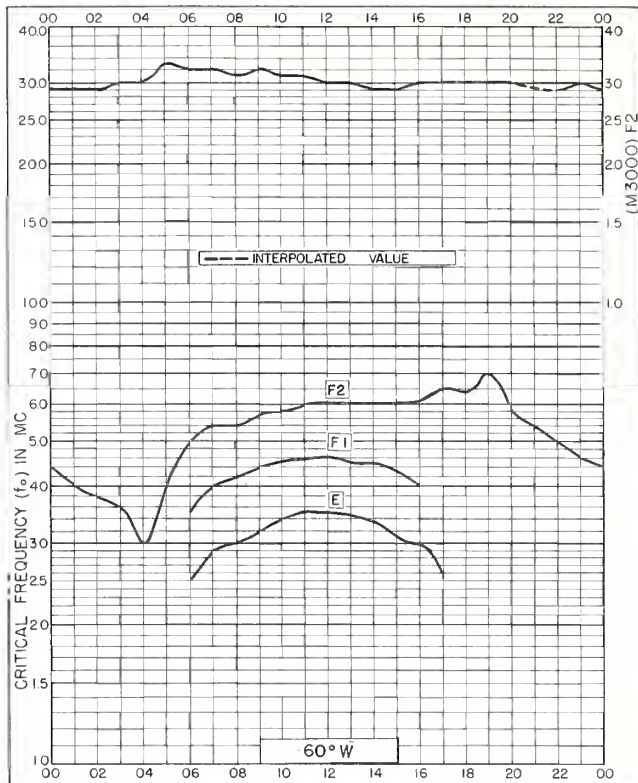


Fig. 14. ST. JOHN'S, NEWFOUNDLAND  
47.6°N, 52.7°W

AUGUST 1961

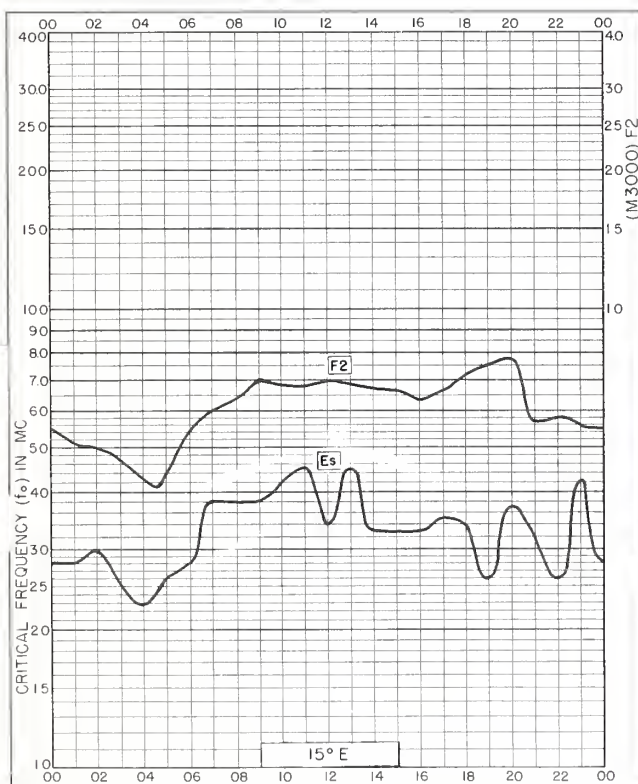


Fig. 15. GRAZ, AUSTRIA  
47.1°N, 15.5°E

AUGUST 1961

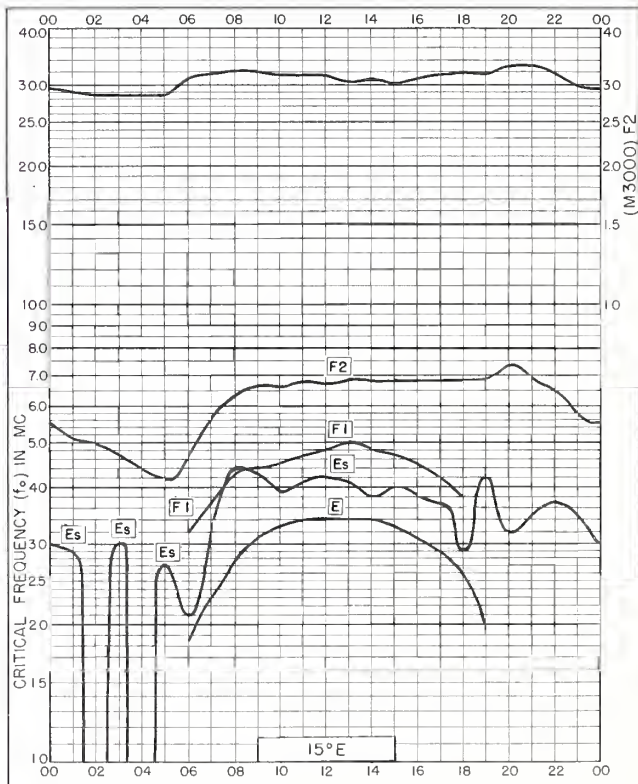


Fig. 16. SOTTENS, SWITZERLAND  
46.6°N, 6.7°E

AUGUST 1961



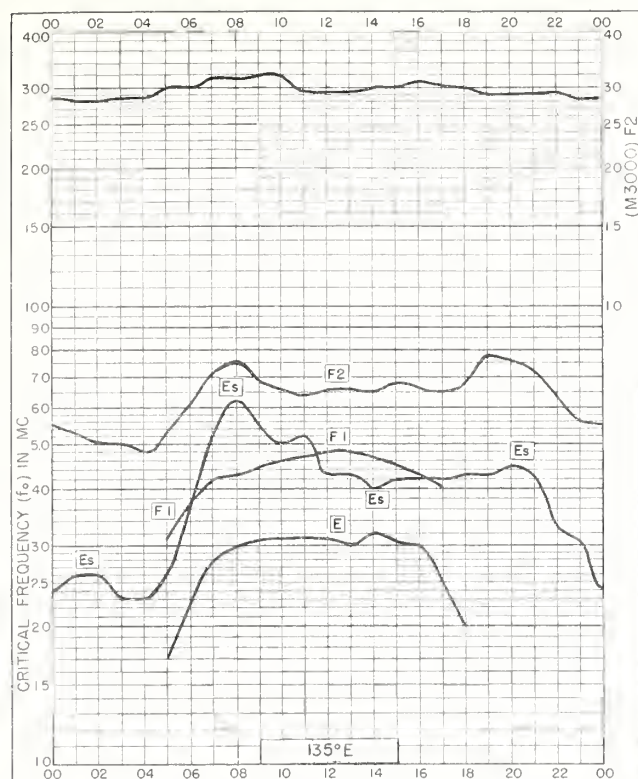


Fig. 17. WAKKANAI, JAPAN  
45.4°N, 141.7°E

AUGUST 1961

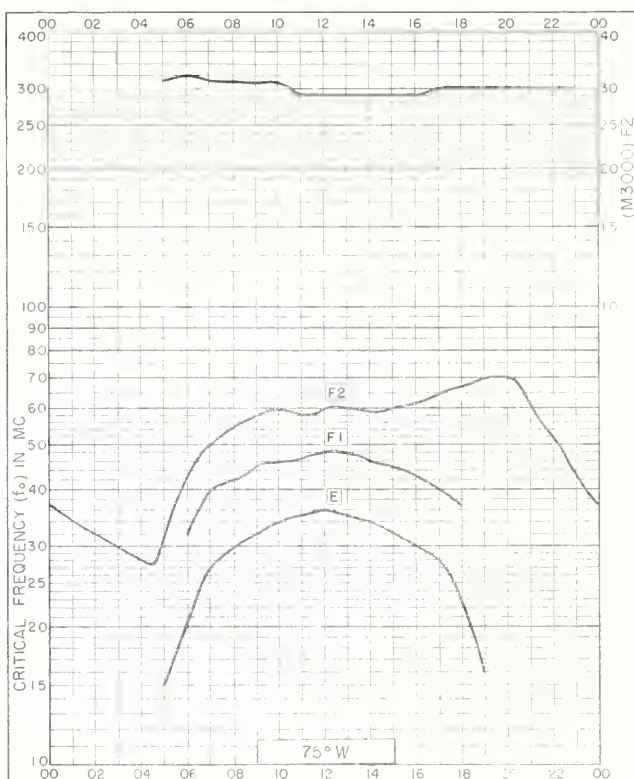


Fig. 18. OTTAWA, CANADA  
45.4°N, 75.9°W

AUGUST 1961

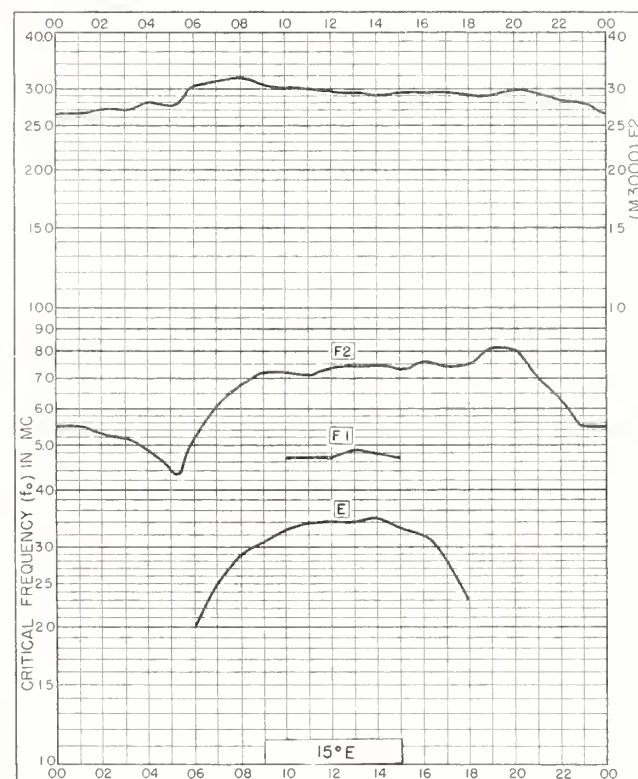


Fig. 19. ROME, ITALY  
41.8°N, 12.5°E

AUGUST 1961

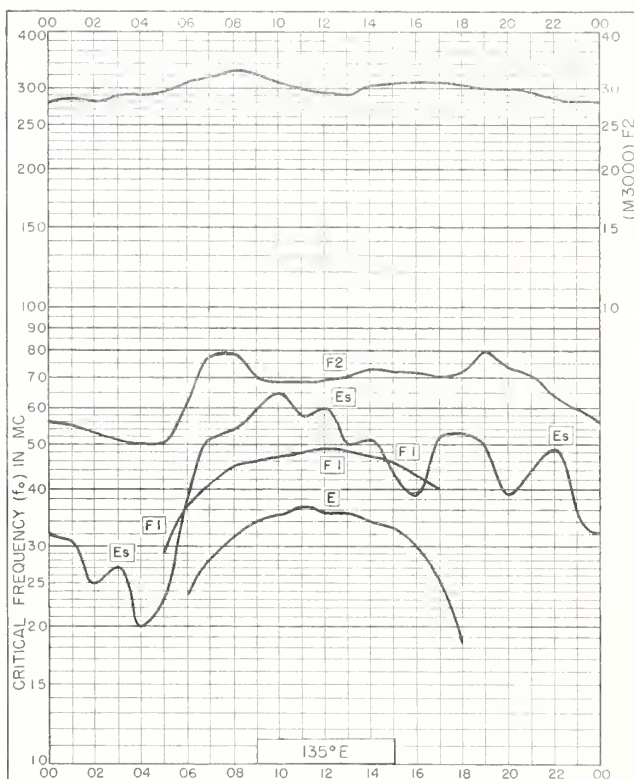


Fig. 20. AKITA, JAPAN  
39.7°N, 140.1°E

AUGUST 1961



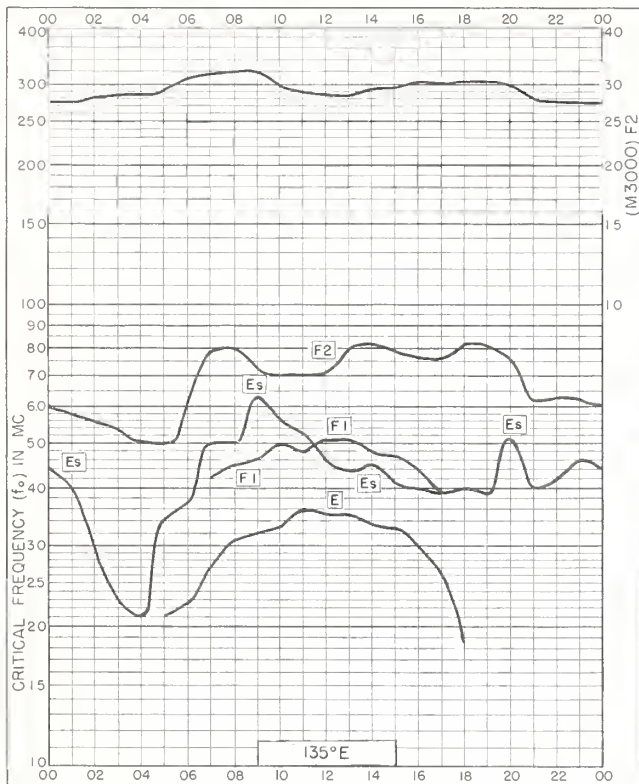


Fig. 21. TOKYO, JAPAN  
35.7°N, 139.5°E

AUGUST 1961



Fig. 22. YAMAGAWA, JAPAN  
31.2°N, 130.6°E

AUGUST 1961



Fig. 23. FORMOSA, CHINA  
25.0°N, 121.5°E

AUGUST 1961



Fig. 24. BAGUIO, P. I.  
16.4°N, 120.6°E

AUGUST 1961

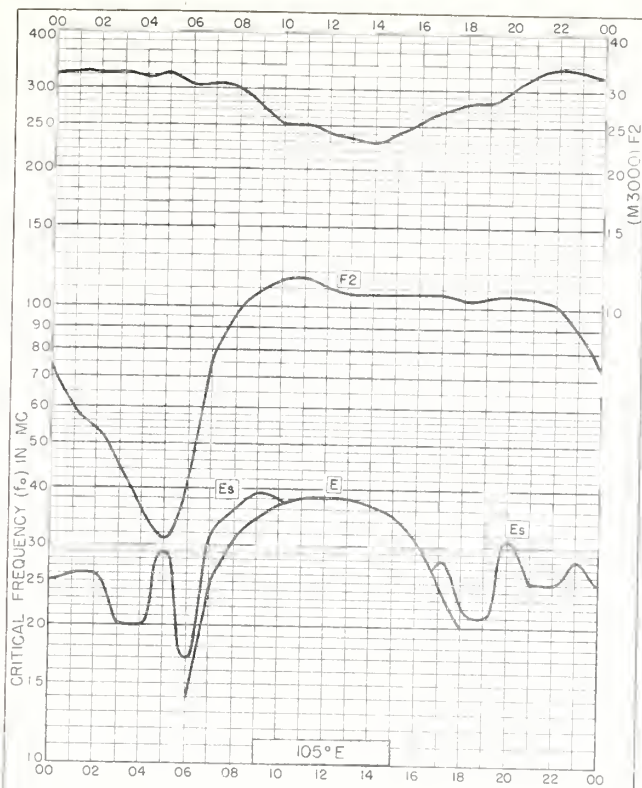


Fig. 25. SINGAPORE, BRITISH MALAYA  
1.3°N, 103.8°E  
AUGUST 1961

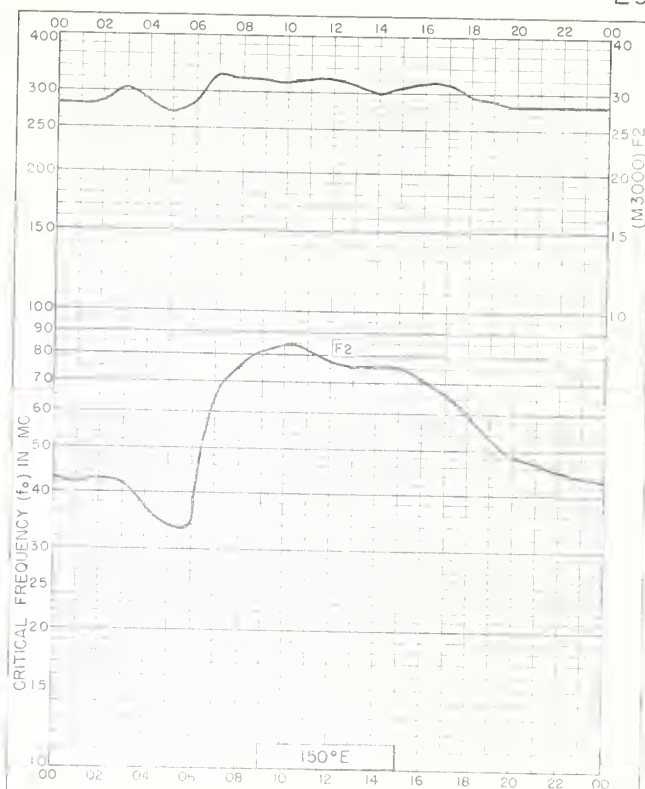


Fig. 26. BRISBANE, AUSTRALIA  
27.5°S, 152.9°E  
AUGUST 1961

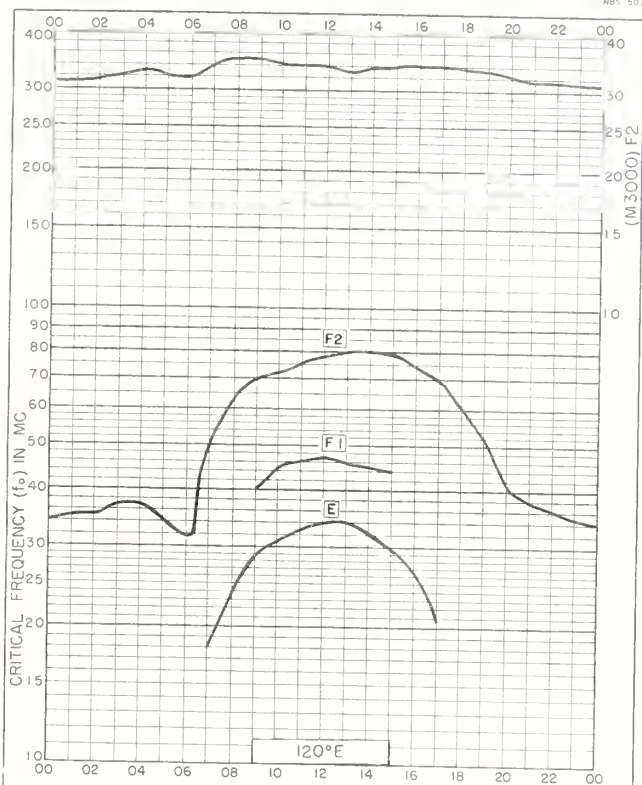


Fig. 27. MUNDARING, W. AUSTRALIA  
32.0°S, 116.2°E  
AUGUST 1961

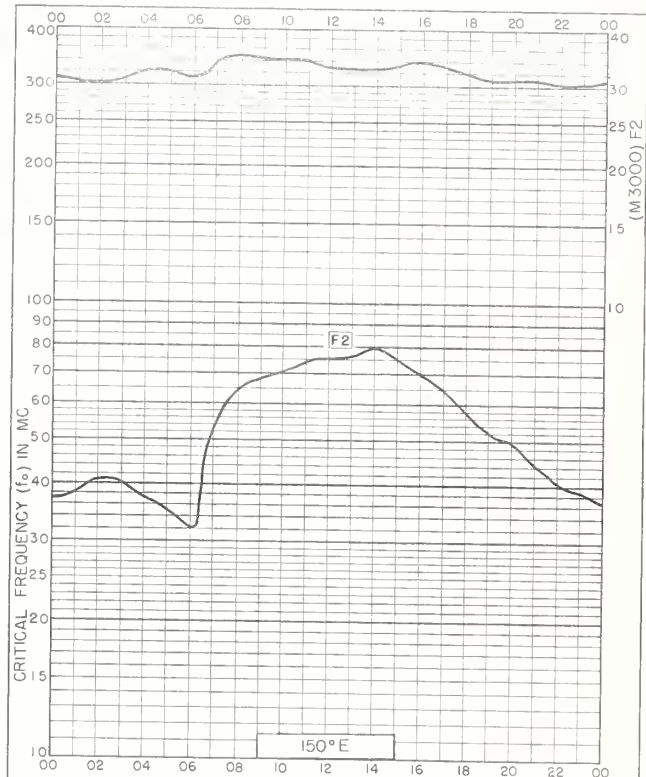


Fig. 28. CANBERRA, AUSTRALIA  
35.3°S, 149.0°E  
AUGUST 1961



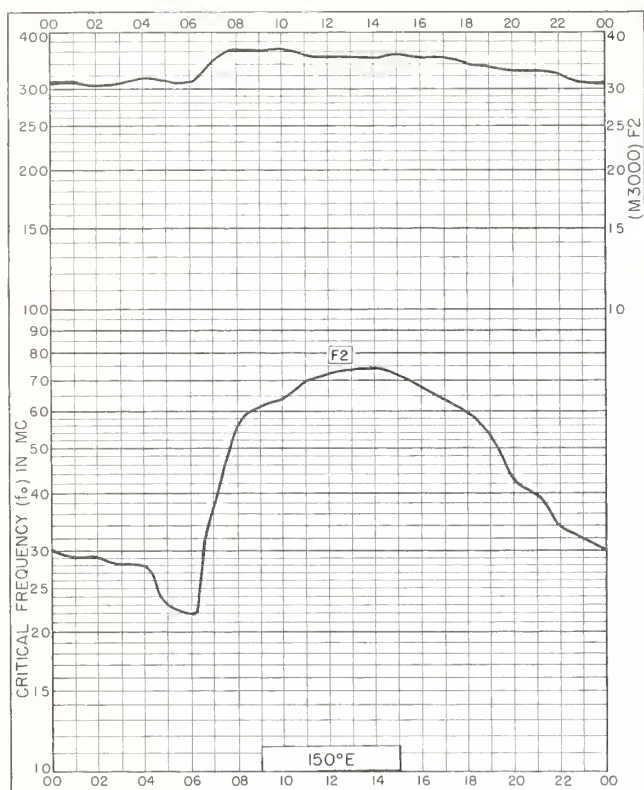


Fig. 29. HOBART, TASMANIA  
42.9°S, 147.2°E

AUGUST 1961

NBS 503

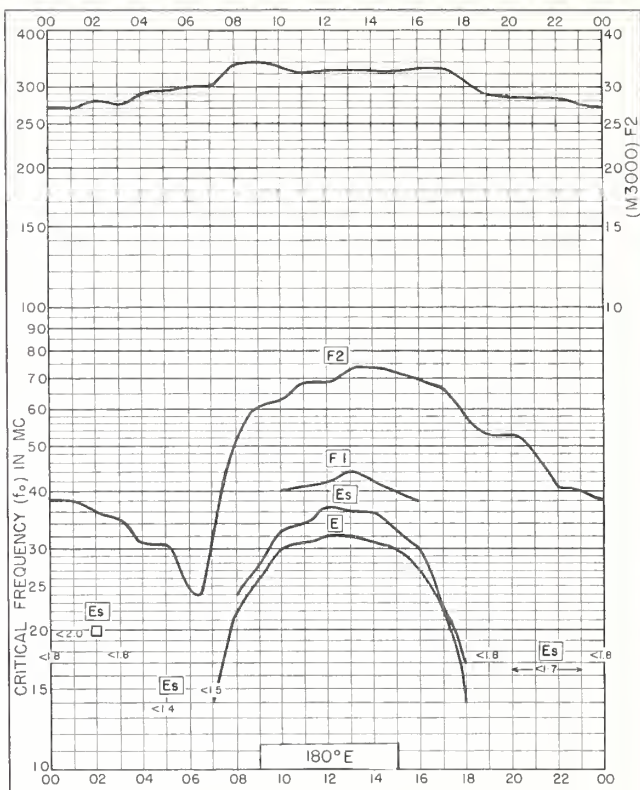


Fig. 30. CHRISTCHURCH, NEW ZEALAND  
43.6°S, 172.8°E

AUGUST 1961

NBS 503

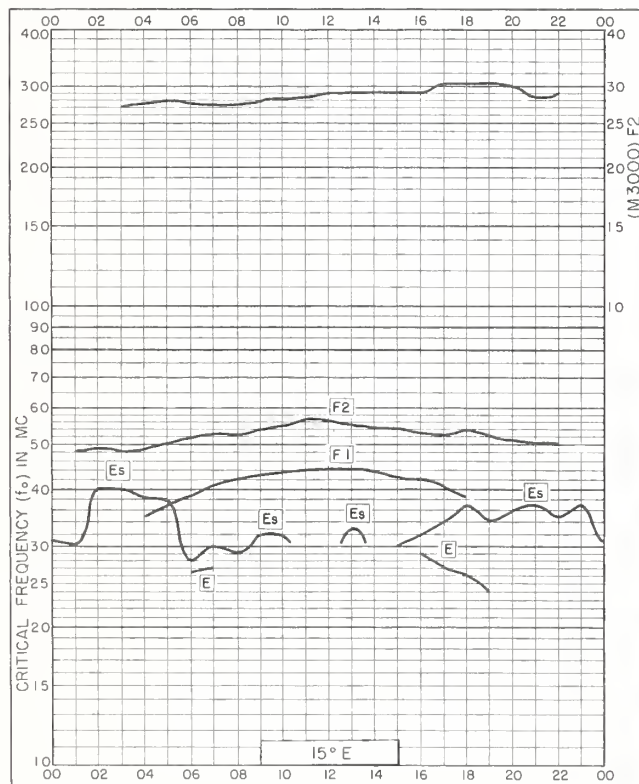


Fig. 31. TROMSØ, NORWAY  
69.7°N, 19.0°E

JULY 1961

NBS 503

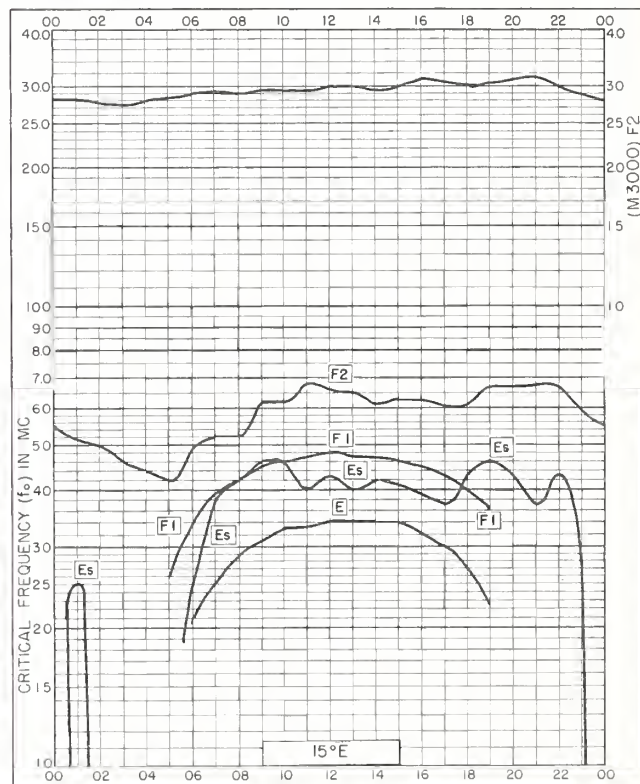


Fig. 32. SOTTENS, SWITZERLAND  
46.6°N, 6.7°E

JULY 1961

NBS 503

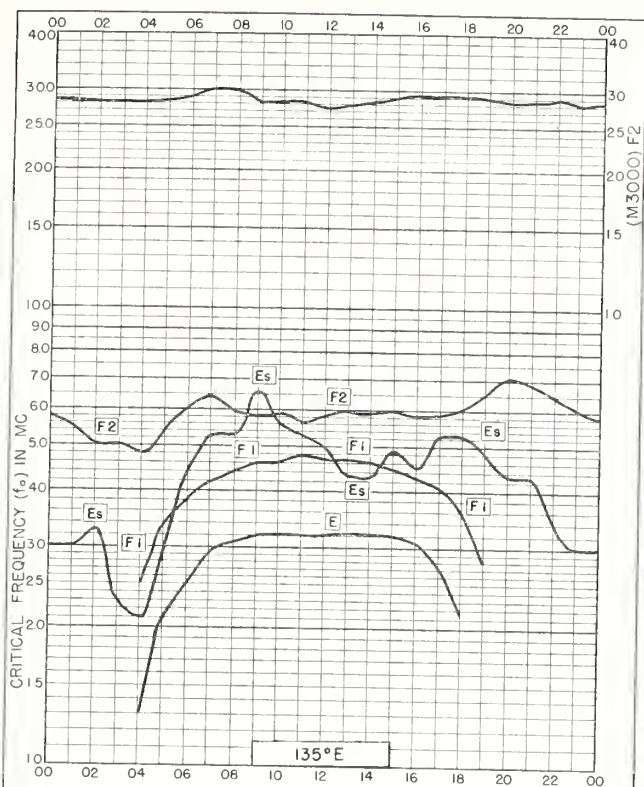


Fig. 33. WAKKANAI, JAPAN  
45.4°N, 141.7°E

JULY 1961

NBS 503

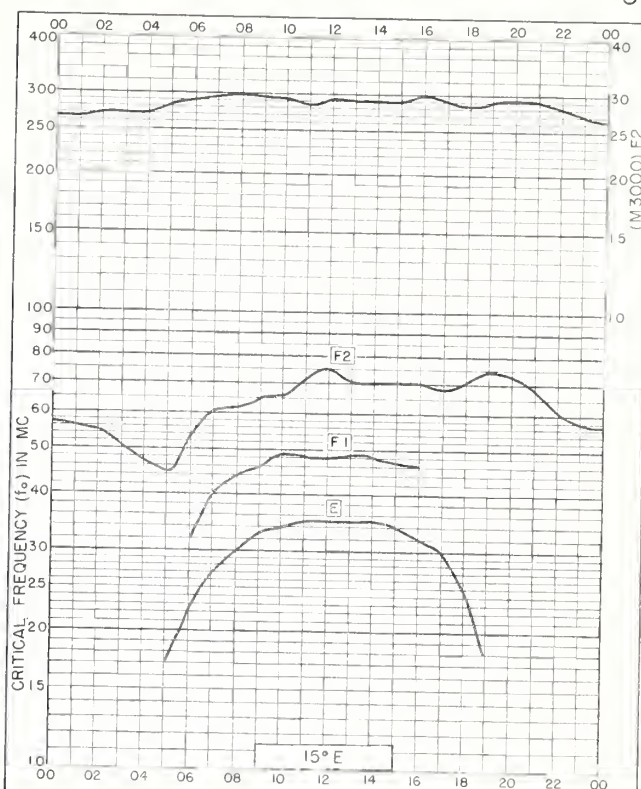


Fig. 34. ROME, ITALY  
41.8°N, 12.5°E

JULY 1961

NBS 503

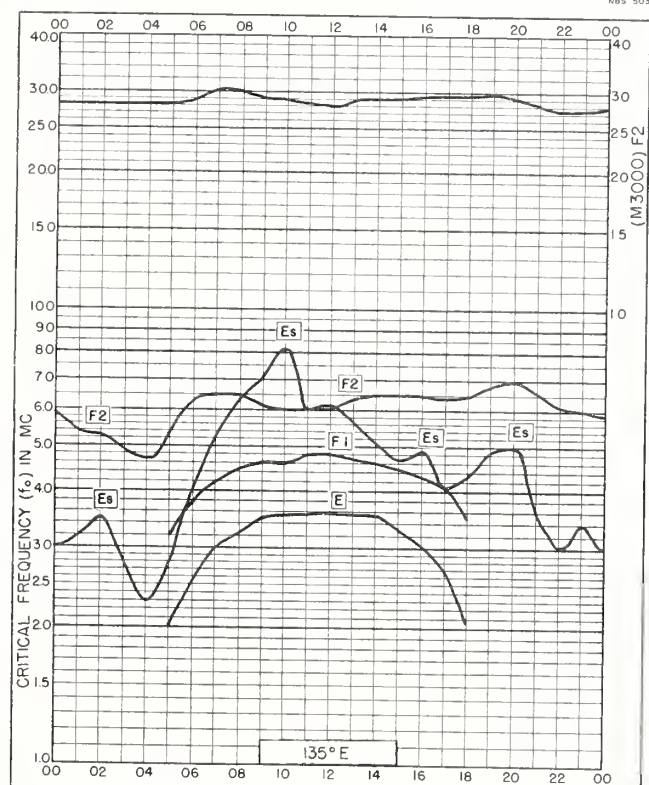


Fig. 35. AKITA, JAPAN  
39.7°N, 140.1°E

JULY 1961

NBS 503

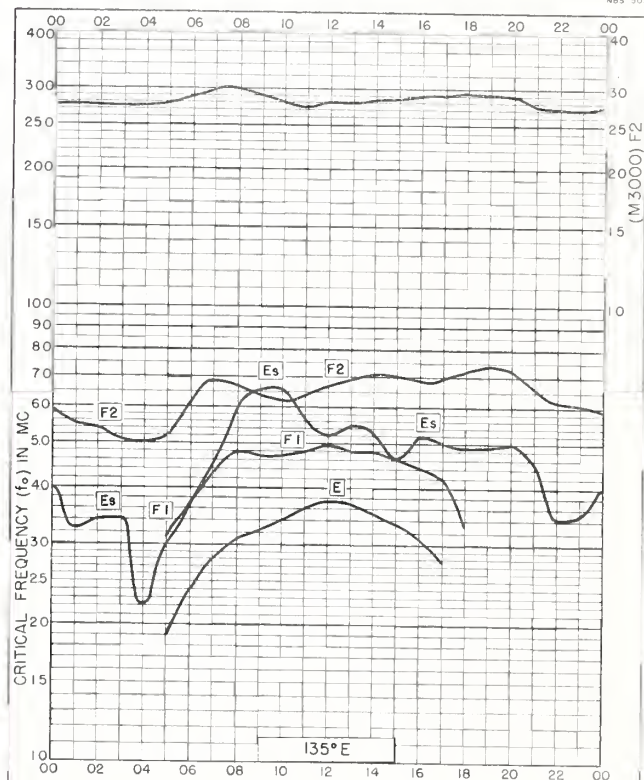


Fig. 36. TOKYO, JAPAN  
35.7°N, 139.5°E

JULY 1961

NBS 503



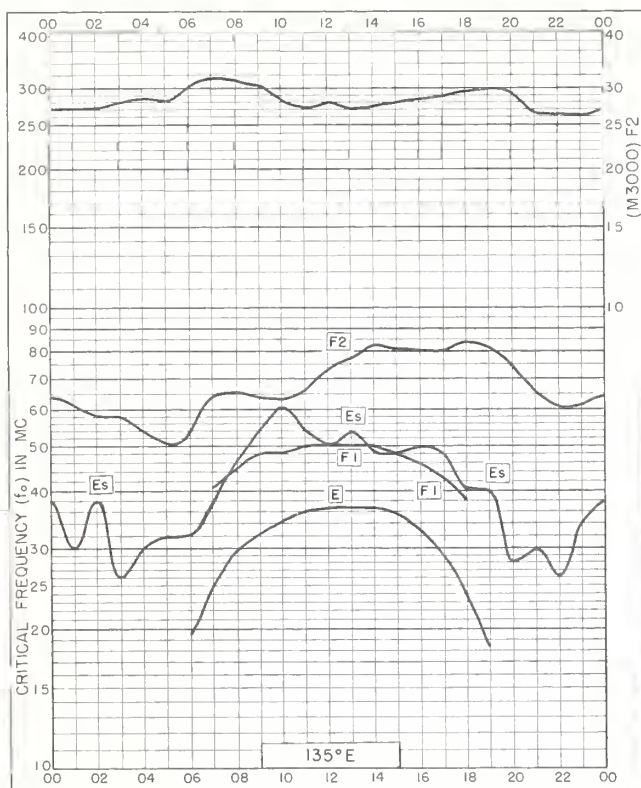


Fig. 37. YAMAGAWA, JAPAN  
31.2°N, 130.6°E

JULY 1961

NBS 503

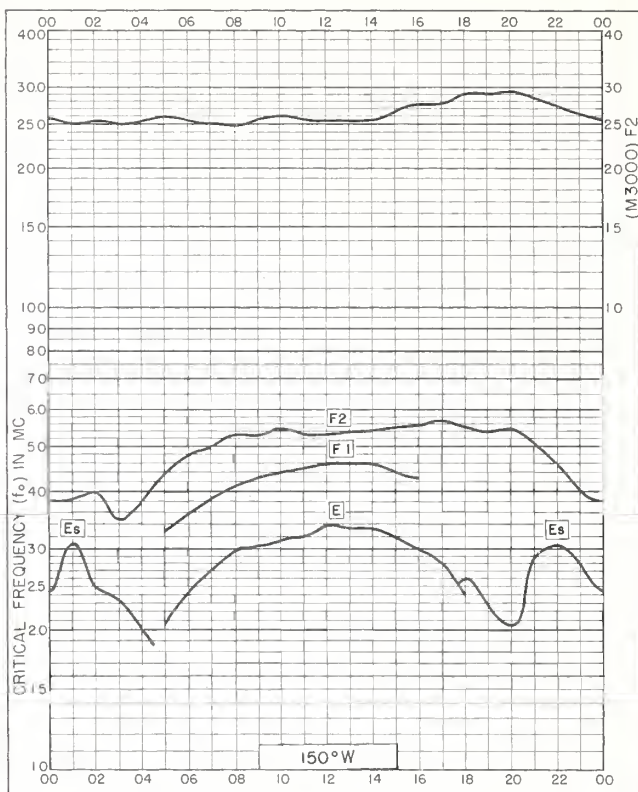


Fig. 38. ANCHORAGE, ALASKA  
61.2°N, 149.9°W

AUGUST 1960

NBS 503

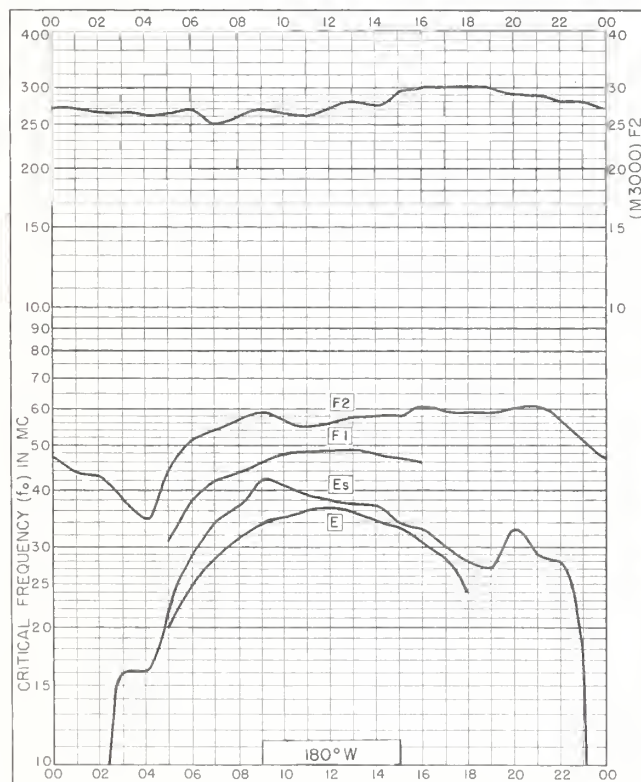


Fig. 39. ADAK, ALASKA  
51.9°N, 176.6°W

AUGUST 1960

NBS 503



Fig. 40. BOULDER, COLORADO  
40.0°N, 105.3°W

AUGUST 1960

NBS 503

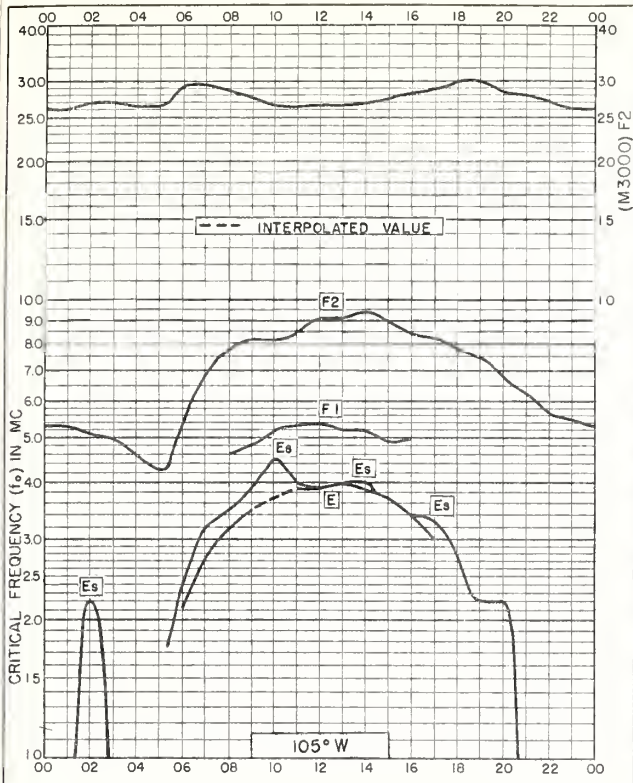


Fig. 41. WHITE SANDS, NEW MEXICO  
32.3°N, 106.5°W AUGUST 1960

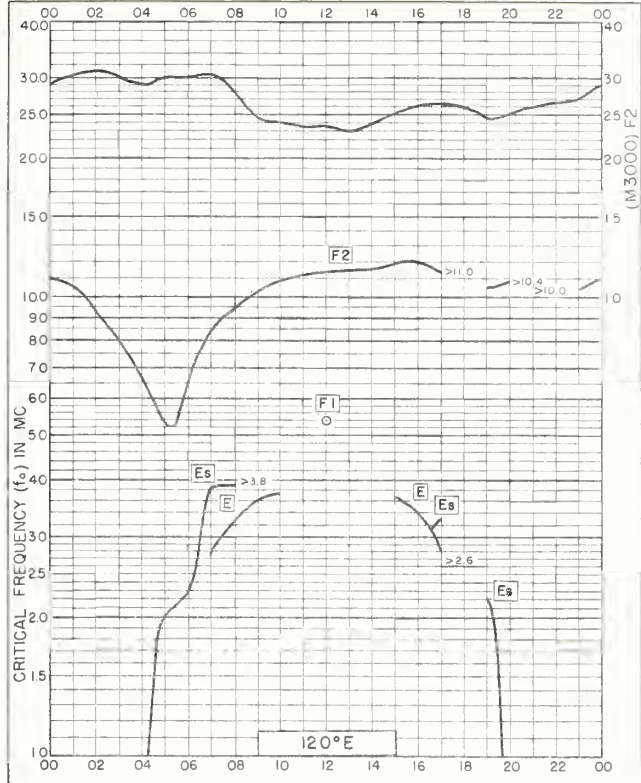


Fig. 42. BAGUIO, P.I.  
16.4°N, 120.6°E AUGUST 1960

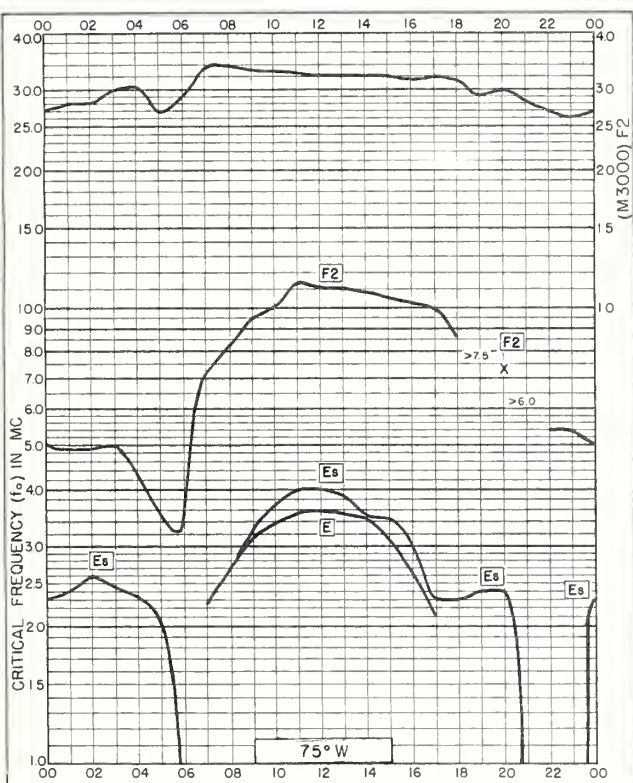


Fig. 43. CONCEPCION, CHILE  
36.6°S, 73.0°W AUGUST 1960

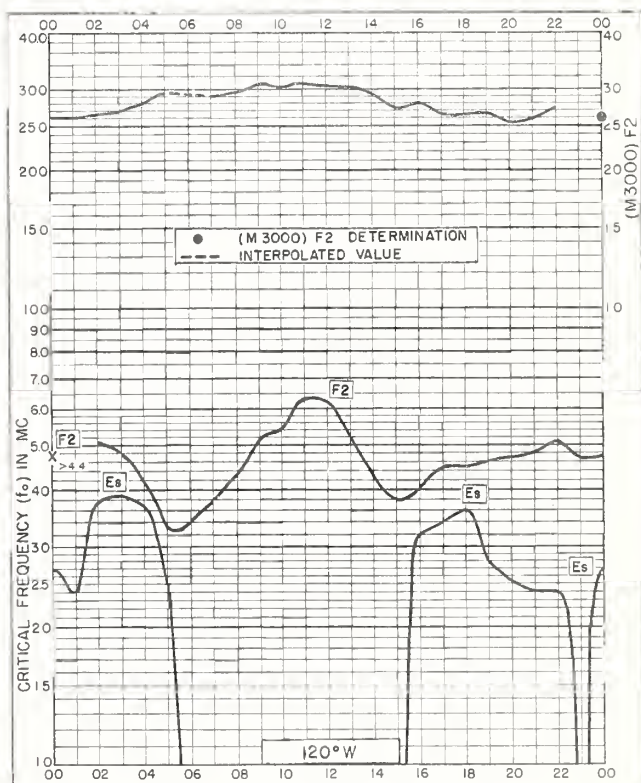


Fig. 44. BYRD STATION  
80.0°S, 120.0°W AUGUST 1960



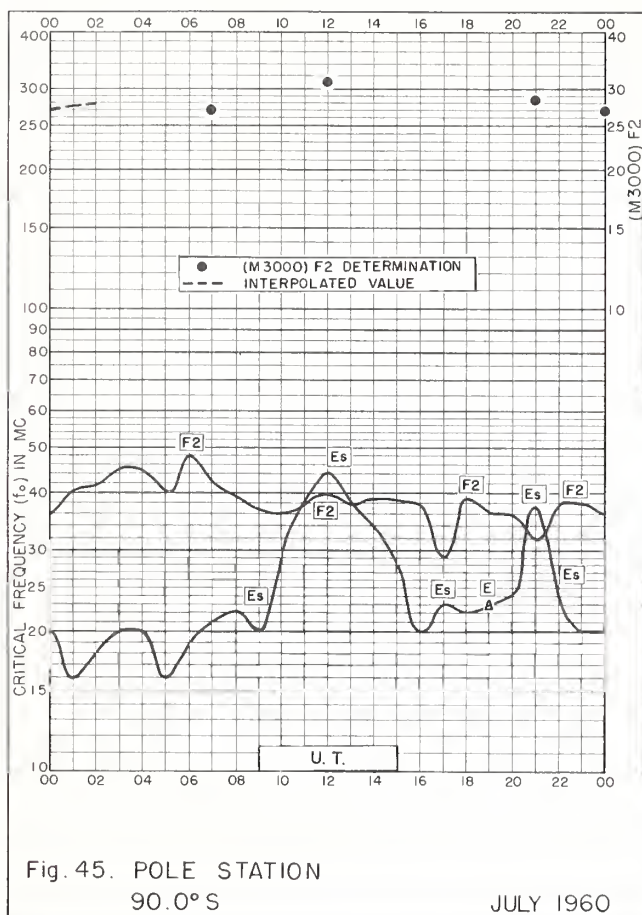


Fig. 45. POLE STATION  
90.0°S

JULY 1960

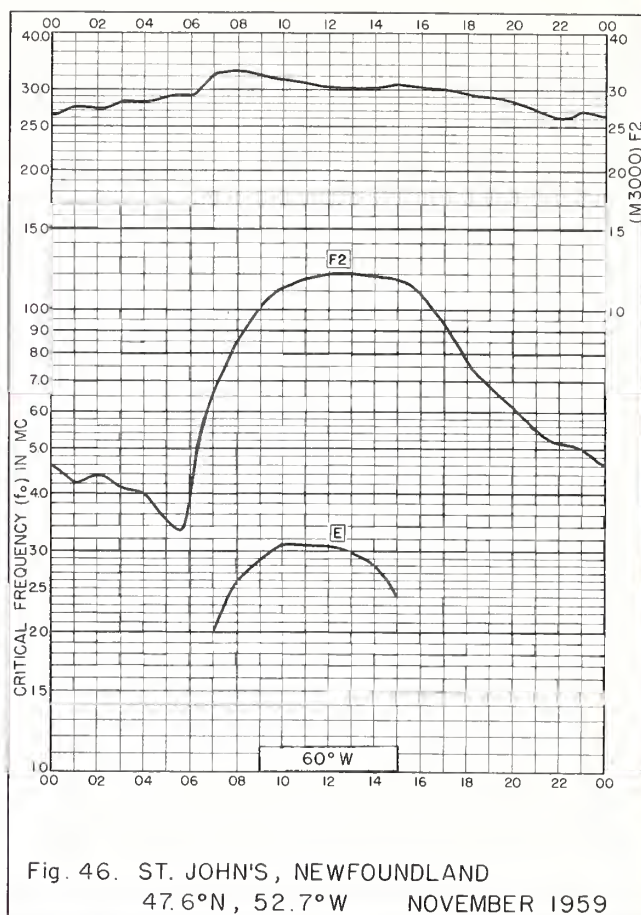


Fig. 46. ST. JOHN'S, NEWFOUNDLAND  
47.6°N, 52.7°W

NOVEMBER 1959

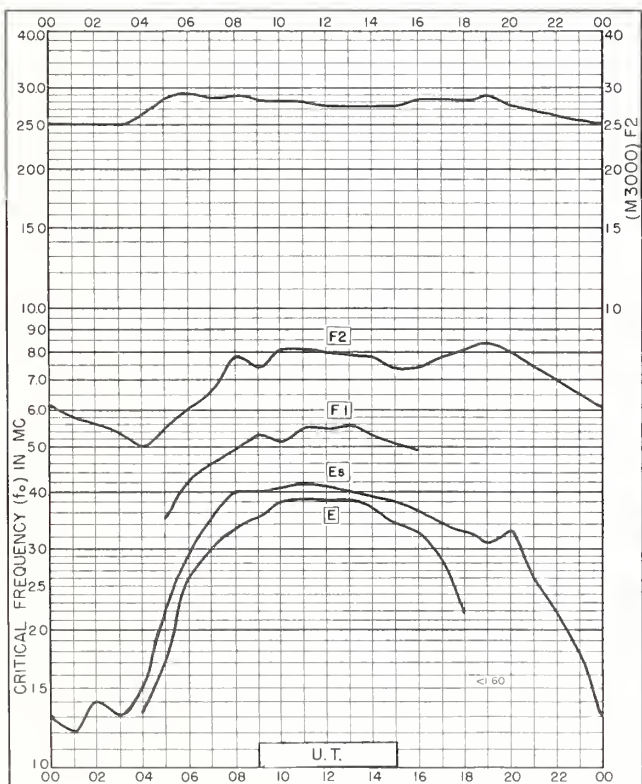


Fig. 47. DOURBES, BELGIUM  
50.1°N, 4.6°E

AUGUST 1959



Fig. 48. CONCEPCION, CHILE  
36.6°S, 73.0°W

AUGUST 1959

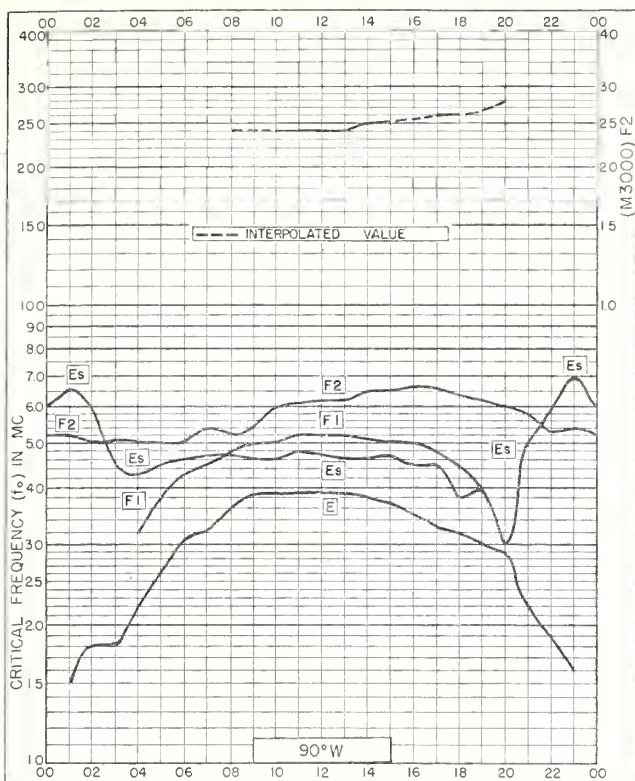


Fig. 49. CHURCHILL, CANADA  
58.8°N, 94.2°W

JUNE 1959

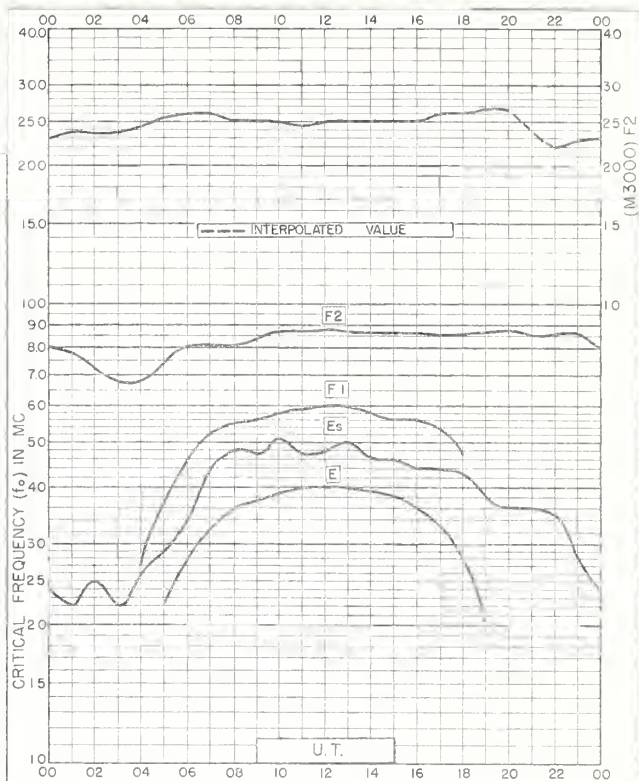


Fig. 50. POITIERS, FRANCE  
46.6°N, 0.3°E

JUNE 1958



Fig. 51. RABAT, MOROCCO  
30.9°N, 6.8°W

JUNE 1958

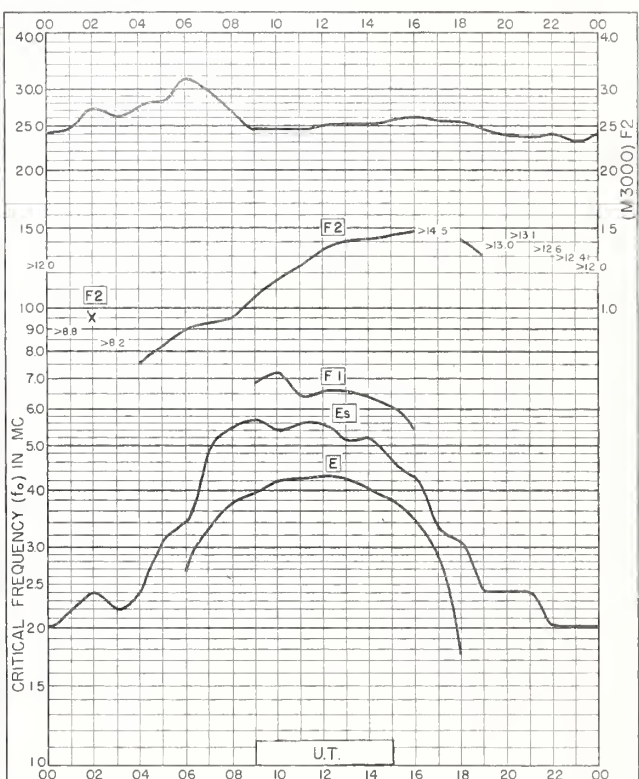


Fig. 52. TAMANRASSET, FRENCH W. AFRICA  
22.8°N, 5.5°E

JUNE 1958



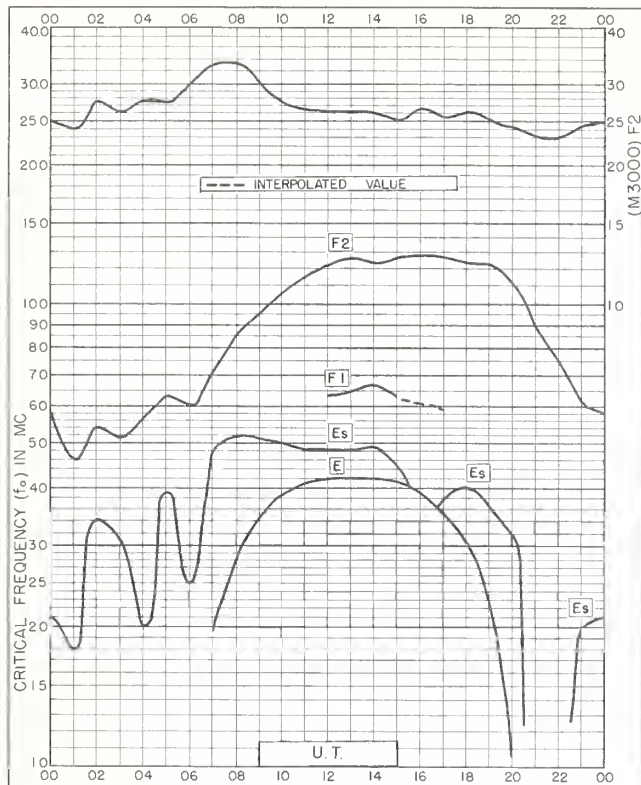


Fig. 53. DAKAR, FRENCH W. AFRICA  
14.8°N, 17.4°W JUNE 1958

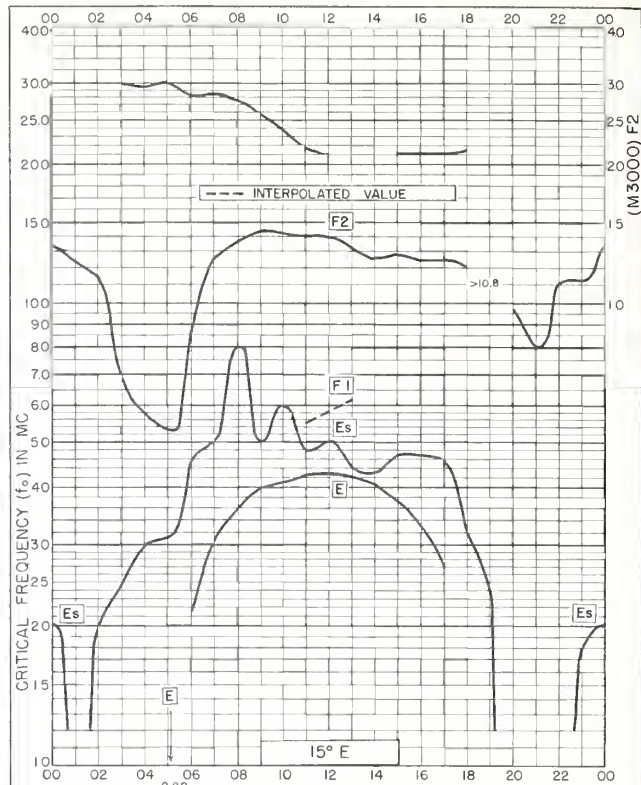


Fig. 54. BANGUI, FRENCH EQUATORIAL AFRICA  
4.6°N, 18.6°E JUNE 1958

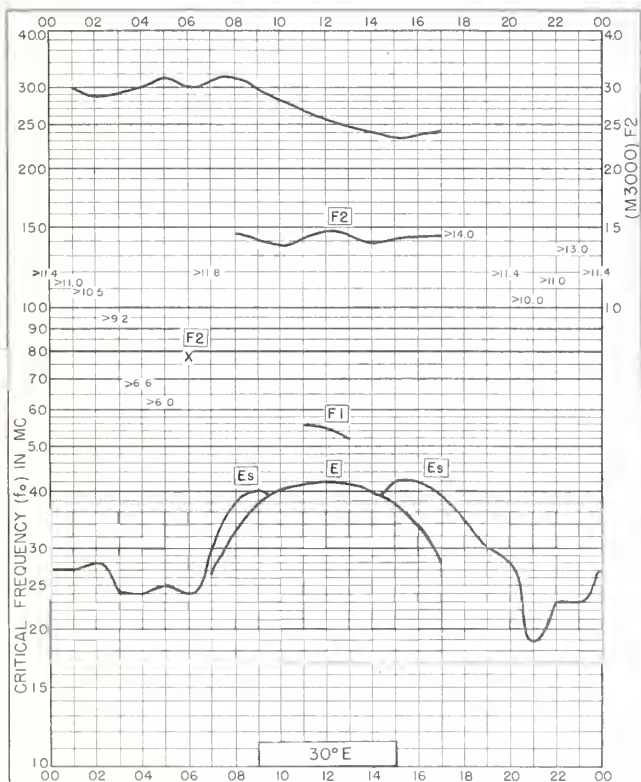


Fig. 55. LWIRO, CONGO  
2.3°S, 28.8°E JUNE 1958

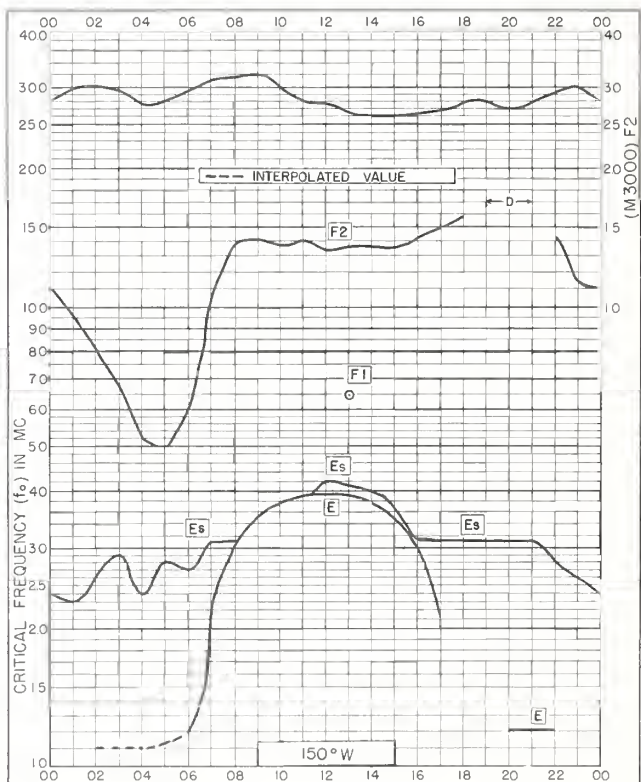


Fig. 56. TAHITI, SOCIETY IS.  
17.7°S, 149.3°W JUNE 1958

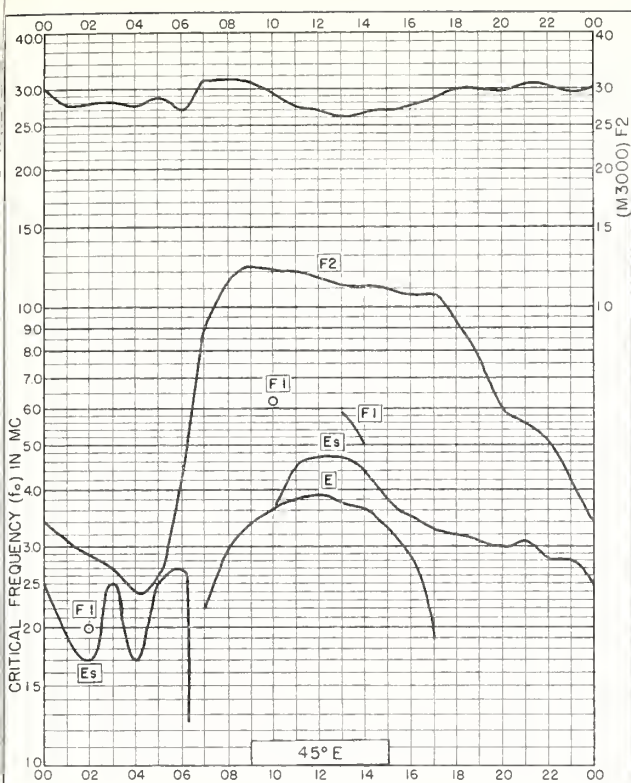


Fig. 57. TANANARIVE, MADAGASCAR  
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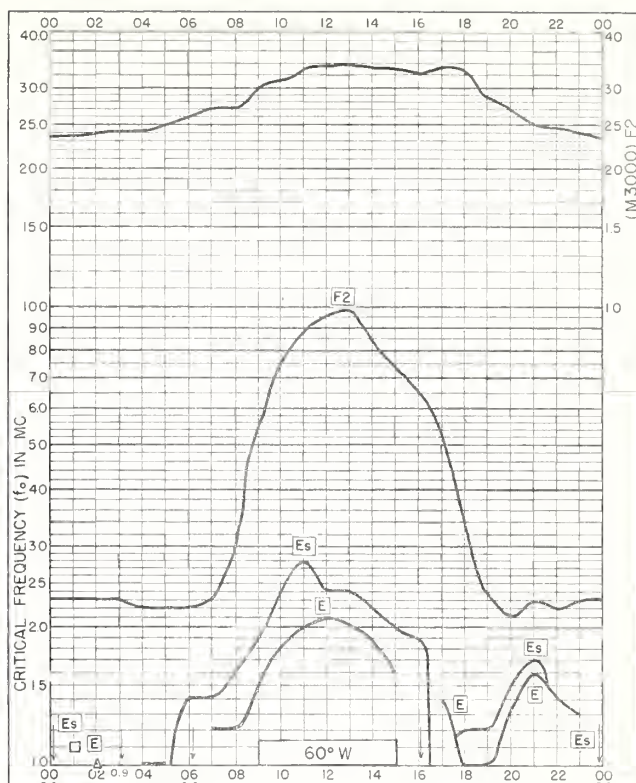


Fig. 58. PORT LOCKROY  
64.8°S, 63.5°W JUNE 1958

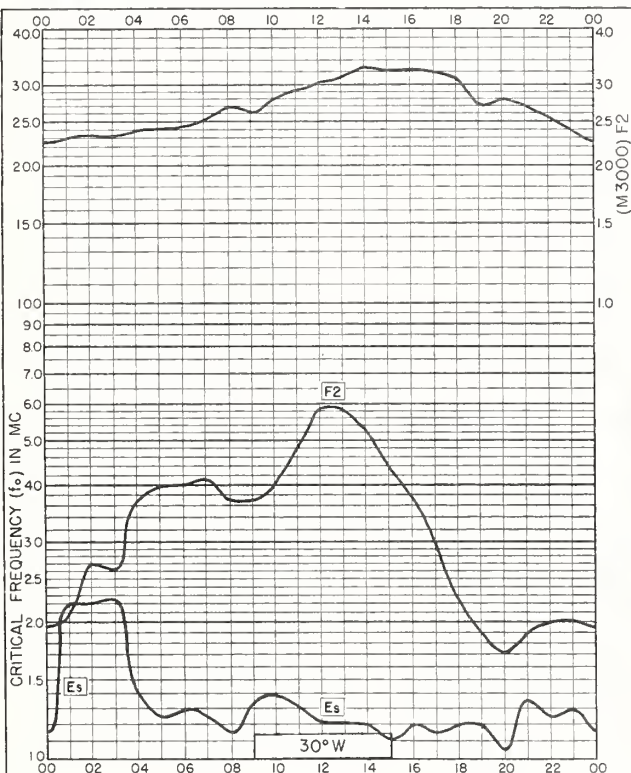


Fig. 59. HALLEY BAY  
75.5°S, 26.6°W JUNE 1958

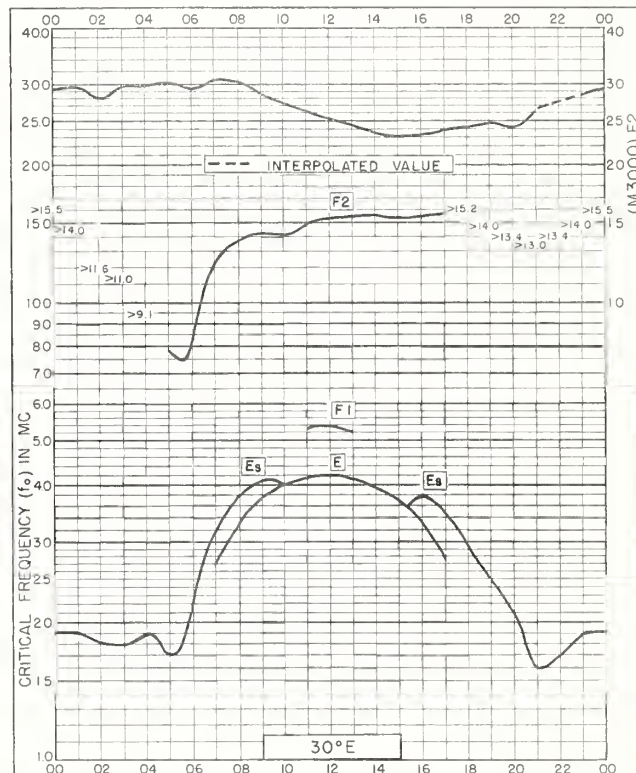


Fig. 60. LWIRO, CONGO  
2.3°S, 28.8°E MAY 1958



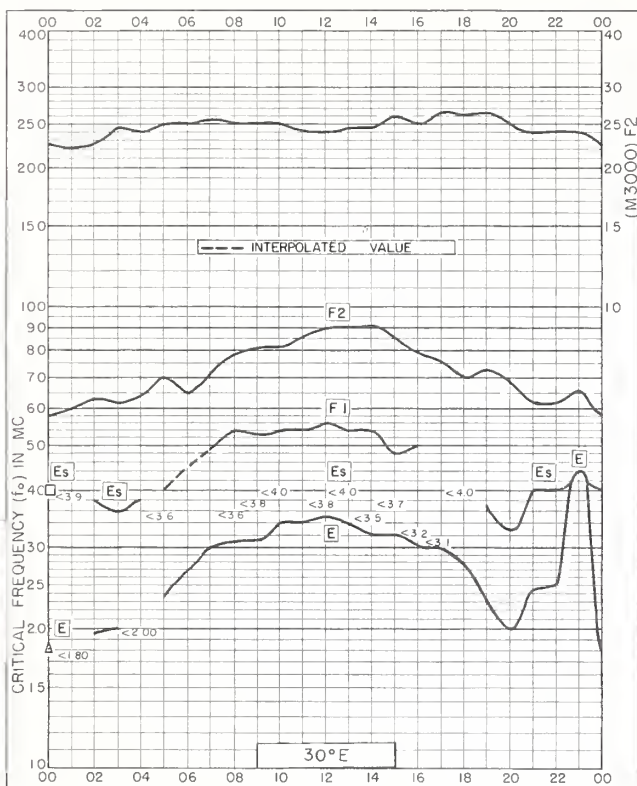


Fig. 61. MURMANSK, U.S.S.R.  
69.0°N, 33.0°E

APRIL 1958

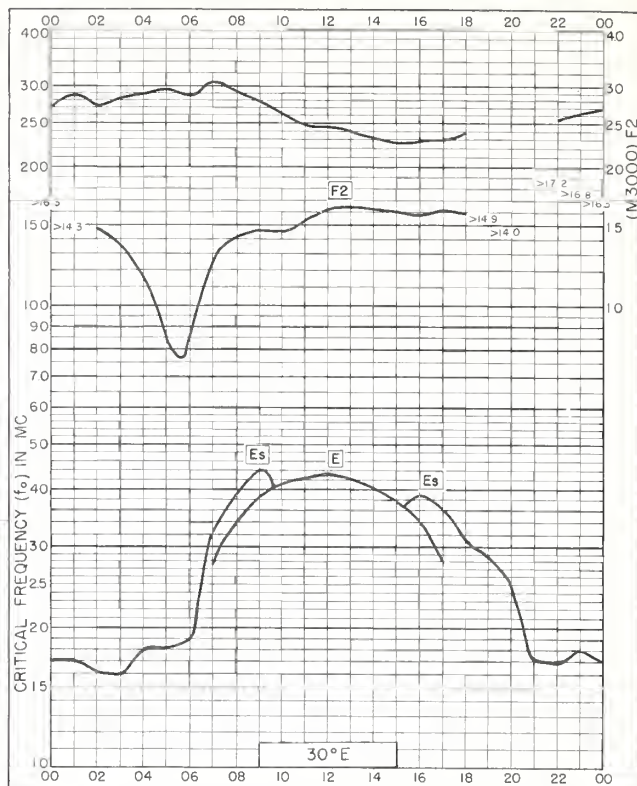


Fig. 62. LWIRO, CONGO  
2.3°S, 28.8°E

APRIL 1958

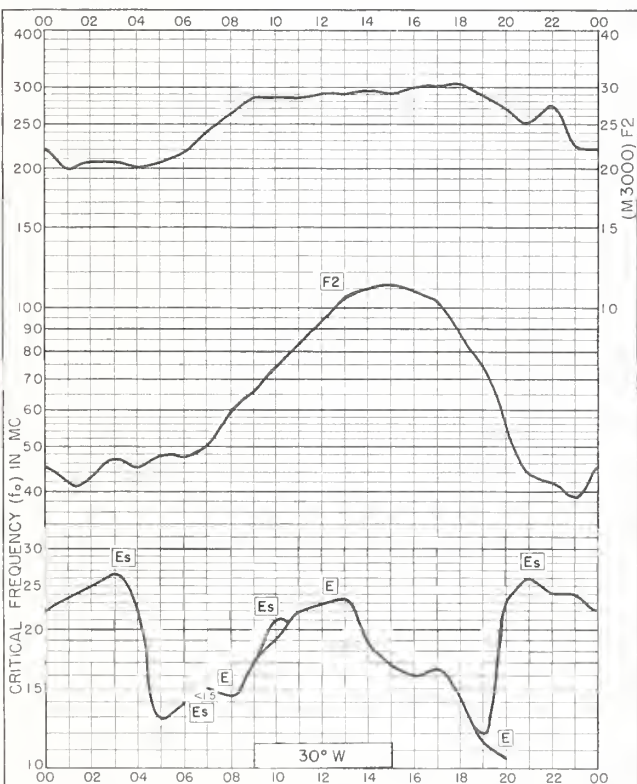


Fig. 63. HALLEY BAY  
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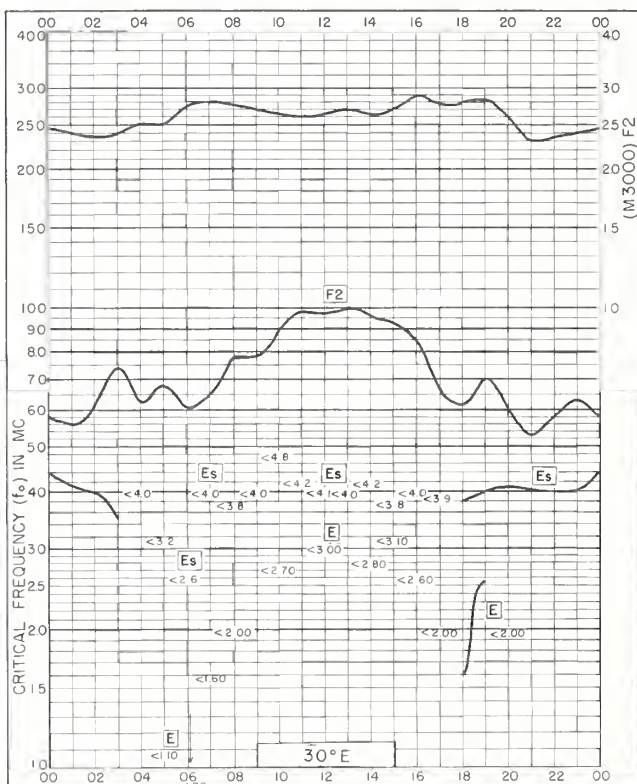


Fig. 64. MURMANSK, U.S.S.R.  
69.0°N, 33.0°E

MARCH 1958

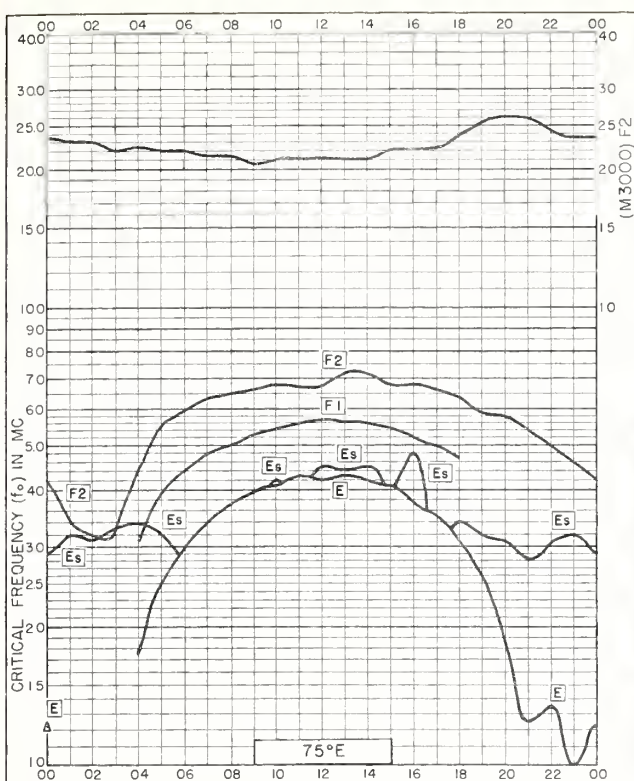


Fig. 65. KERGUELEN I.  
49.4°S, 70.3°E DECEMBER 1957

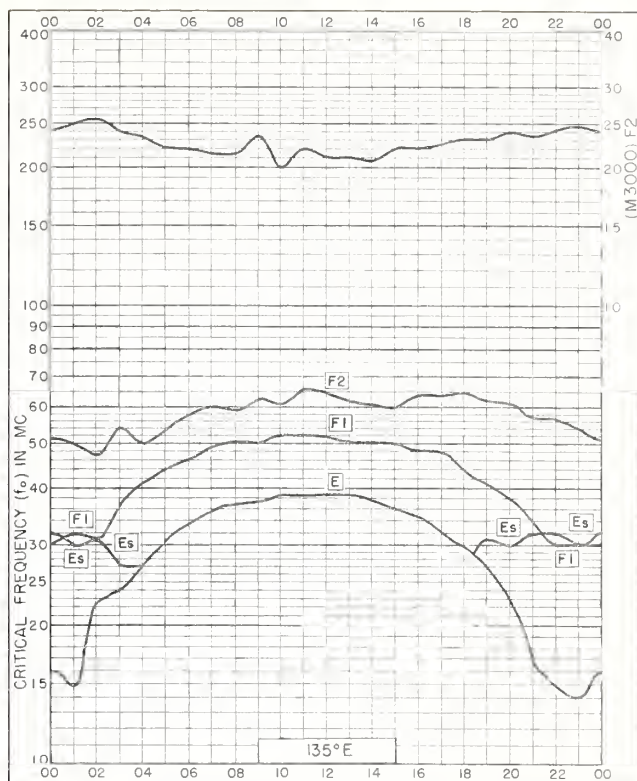


Fig. 66. TERRE ADELIE  
66.7°S, 140.0°E DECEMBER 1957

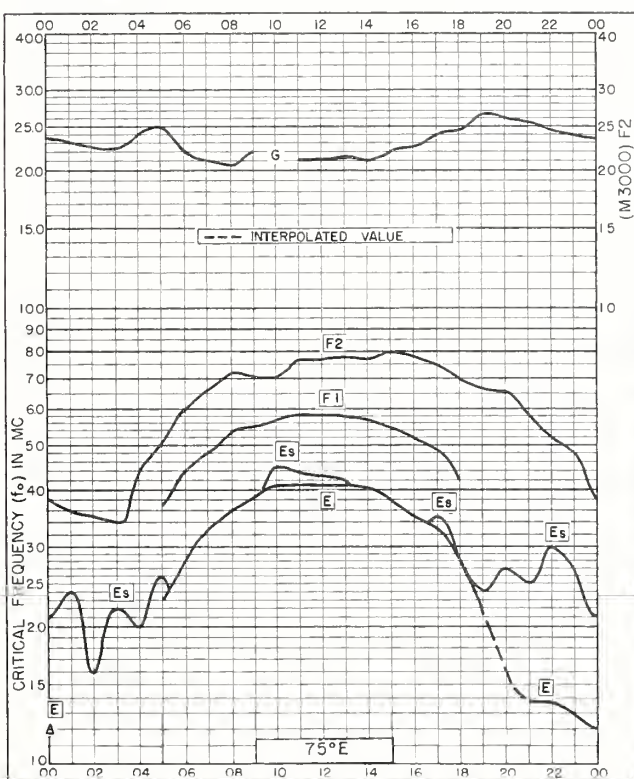


Fig. 67. KERGUELEN I.  
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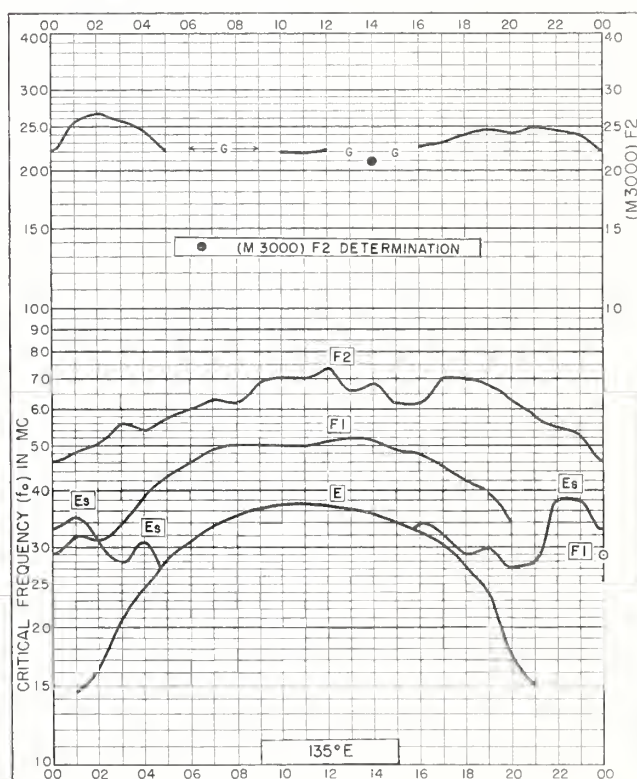


Fig. 68. TERRE ADELIE  
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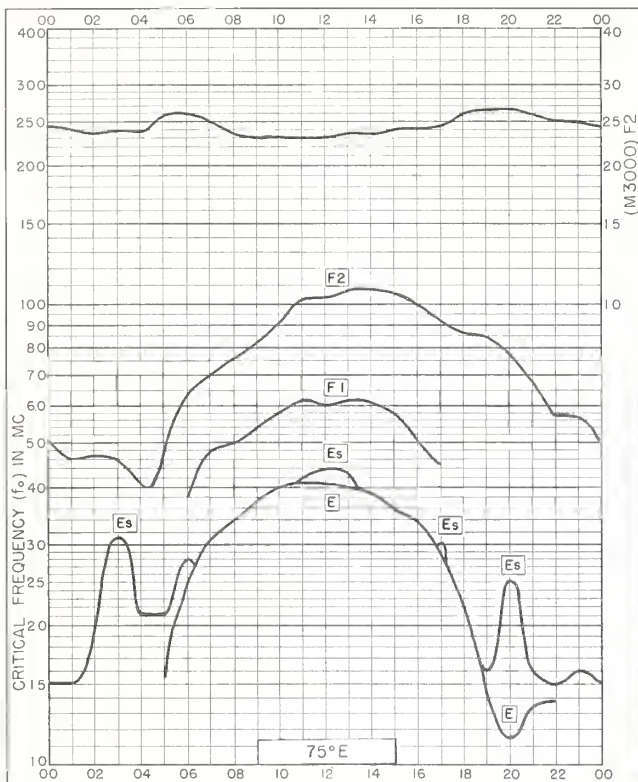


Fig. 69. KERGUELEN I.  
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OCTOBER 1957

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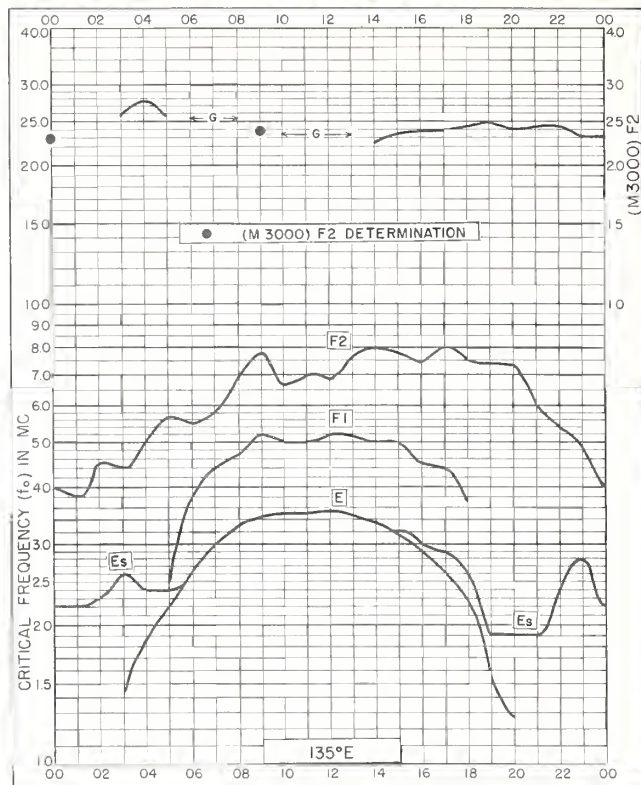


Fig. 70. TERRE ADELIE  
66.7°S, 140.0°E  
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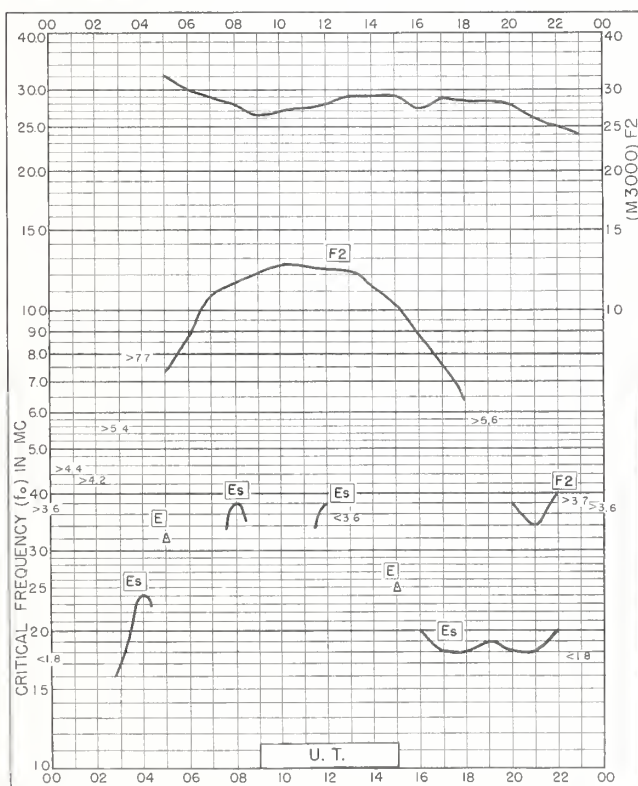


Fig. 71. MARION I.  
46.8°S, 37.9°E  
SEPTEMBER 1957

NBS 503

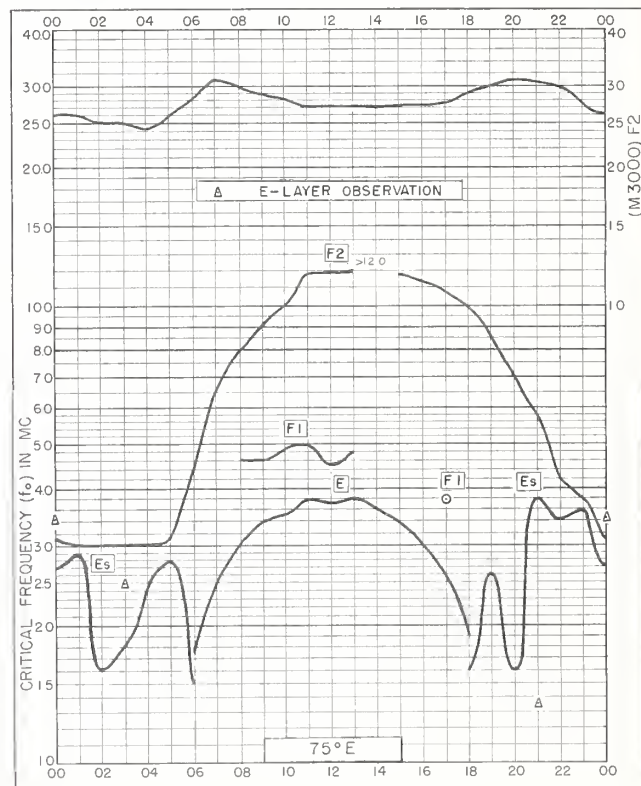


Fig. 72. KERGUELEN I.  
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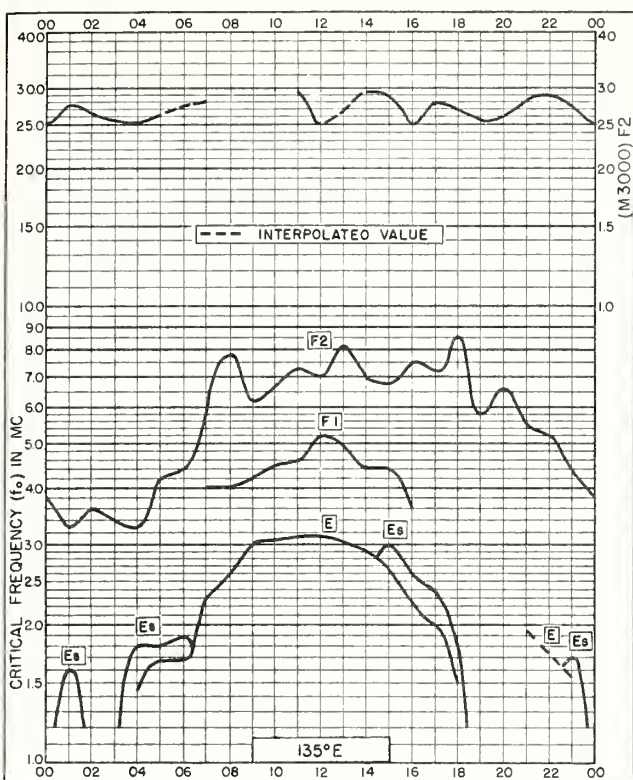


Fig. 73. TERRE ADELIE  
66.7°S, 140.0°E SEPTEMBER 1957

Comments: Standard Procedure, Calif.

NBS 503

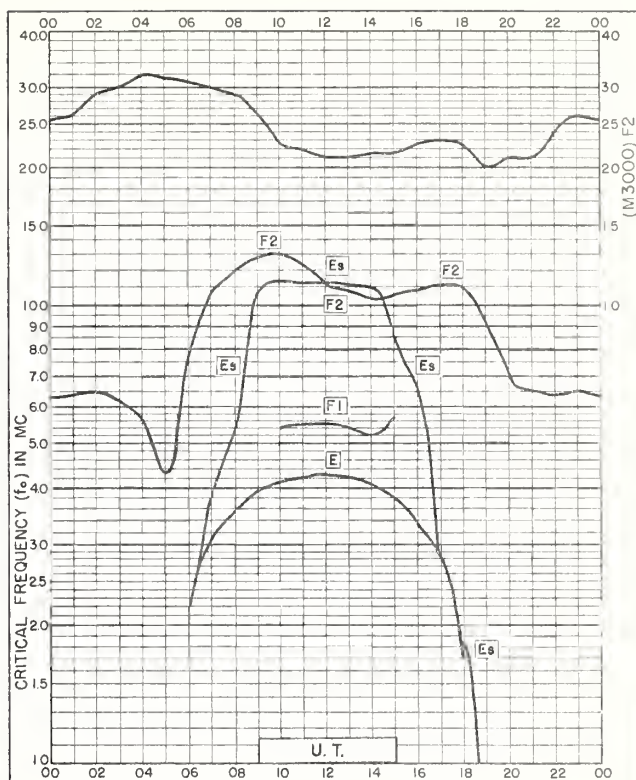


Fig. 74. IBADAN, NIGERIA  
7.4°N, 3.9°E AUGUST 1957

Comments: Standard Procedure, Calif.

NBS 503

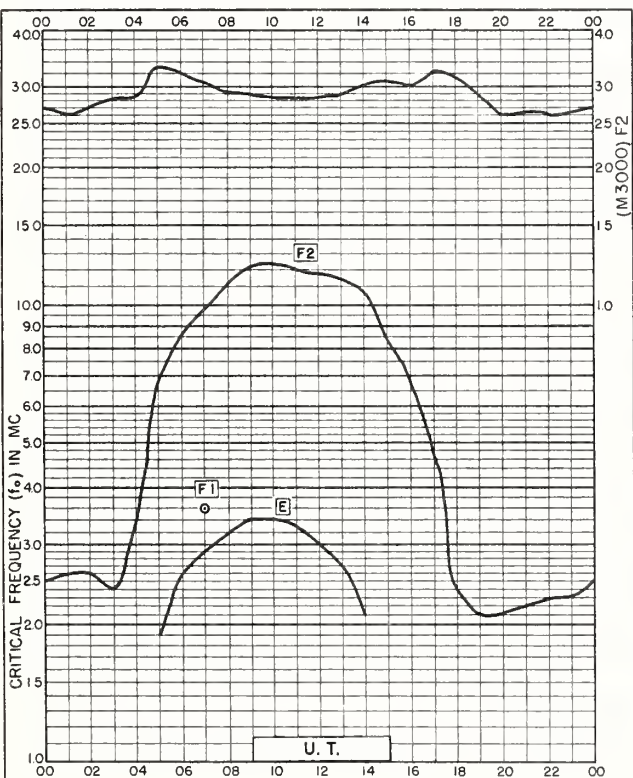


Fig. 75. MARION I.  
46.8°S, 37.9°E AUGUST 1957

Comments: Standard Procedure, Calif.

NBS 503

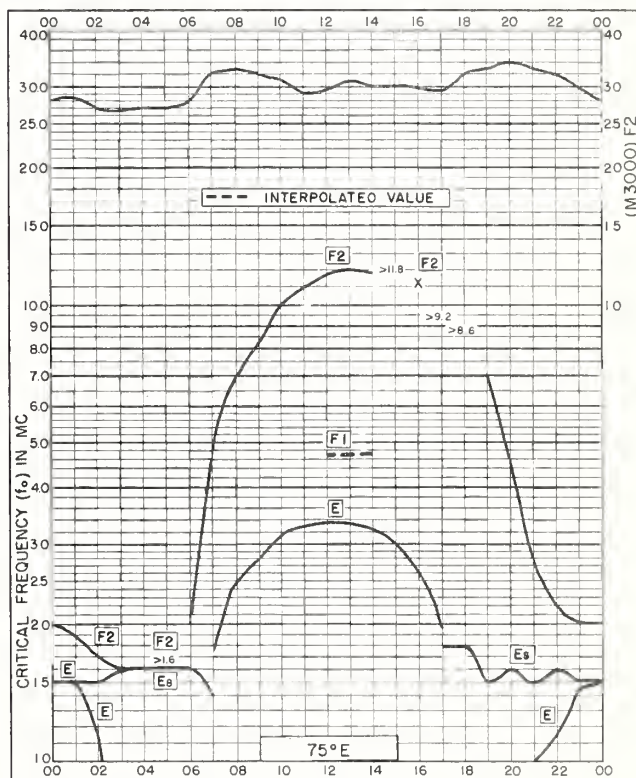


Fig. 76. KERGUELEN I.  
49.4°S, 70.3°E AUGUST 1957

Comments: Standard Procedure, Calif.

NBS 503



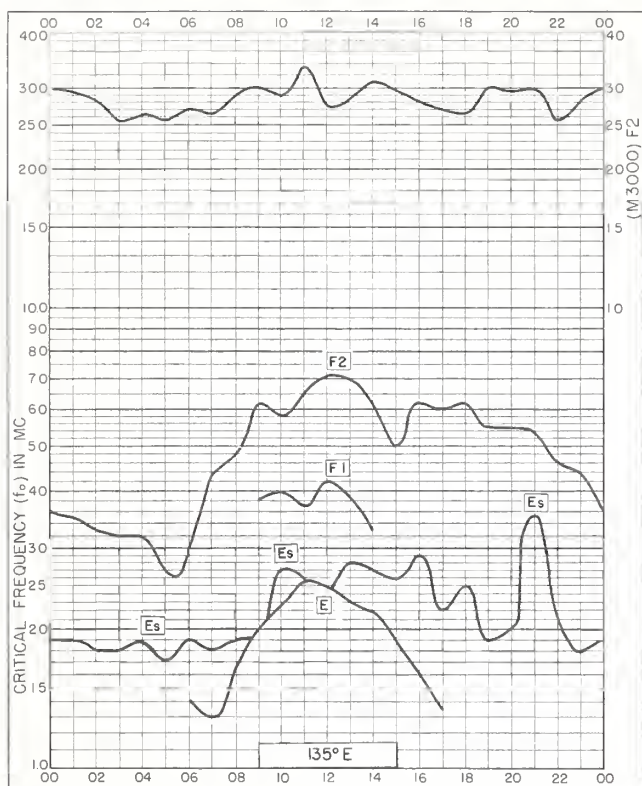


Fig. 77. TERRE ADELIE  
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AUGUST 1957

NBS 503

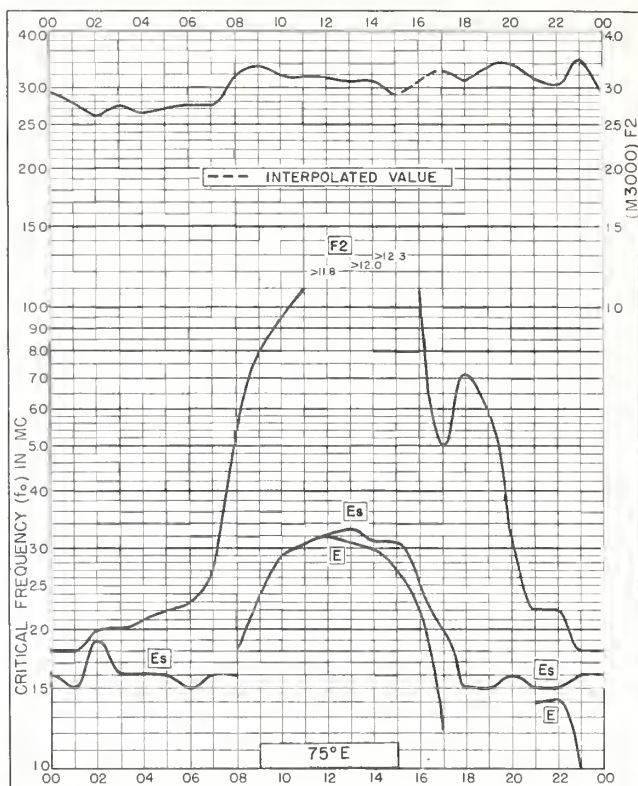


Fig. 78. KERGUELEN I.  
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JULY 1957

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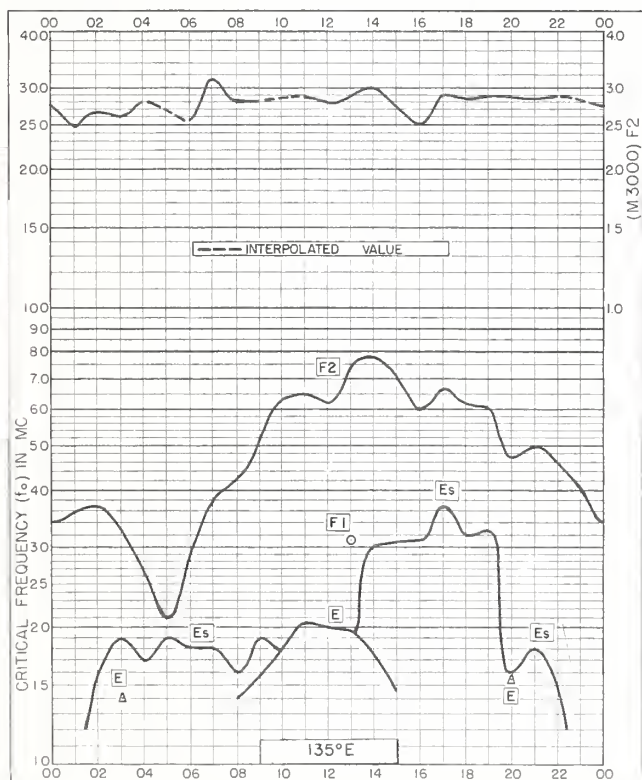


Fig. 79. TERRE ADELIE  
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JULY 1957

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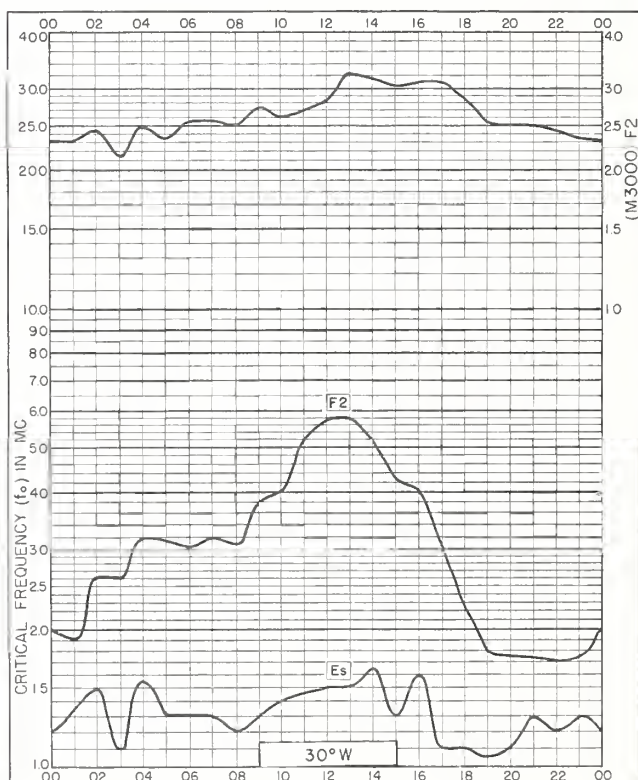


Fig. 80. HALLEY BAY  
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JULY 1957

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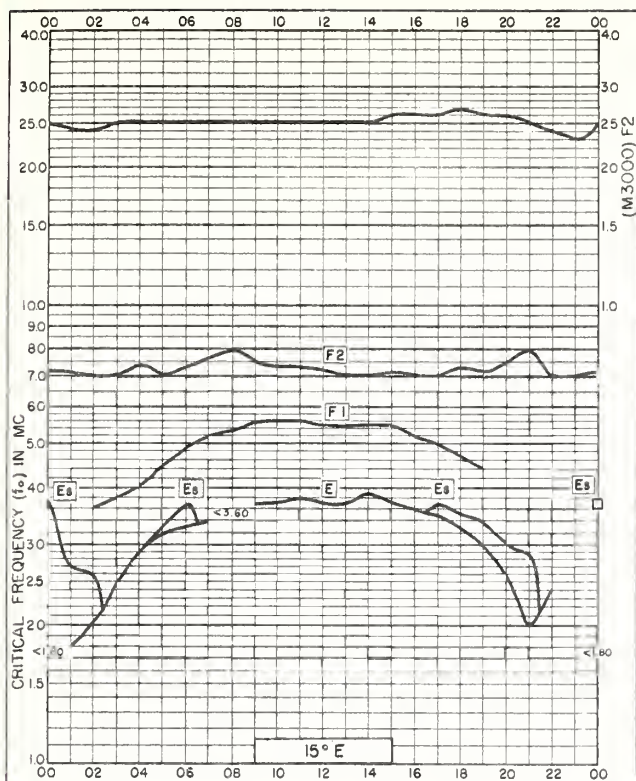


Fig. 81. LULEA, SWEDEN  
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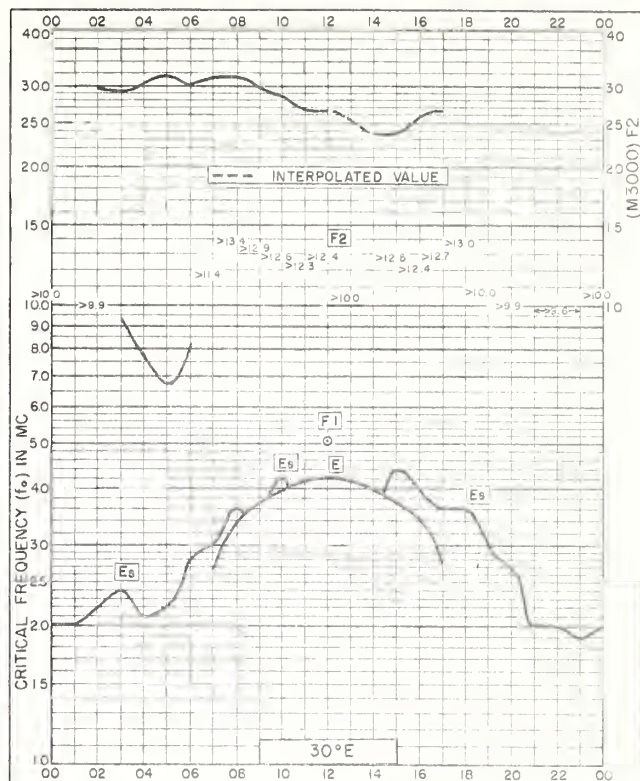


Fig. 82. LWIRO, CONGO  
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JUNE 1957

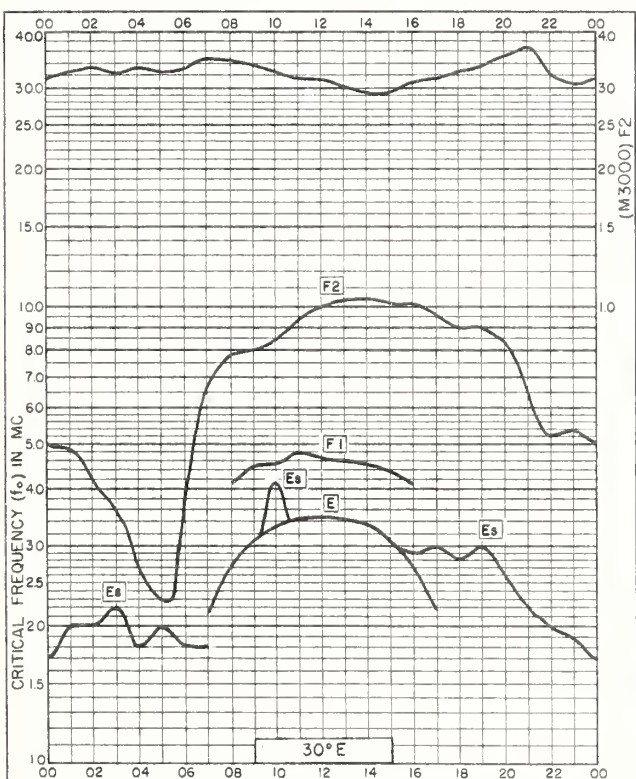


Fig. 83. LWIRO, CONGO  
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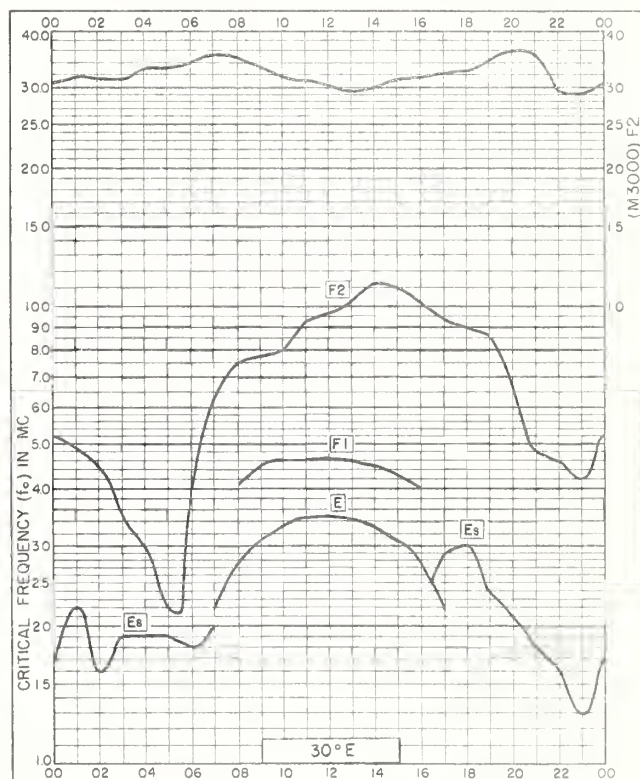


Fig. 84. LWIRO, CONGO  
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MAY 1955



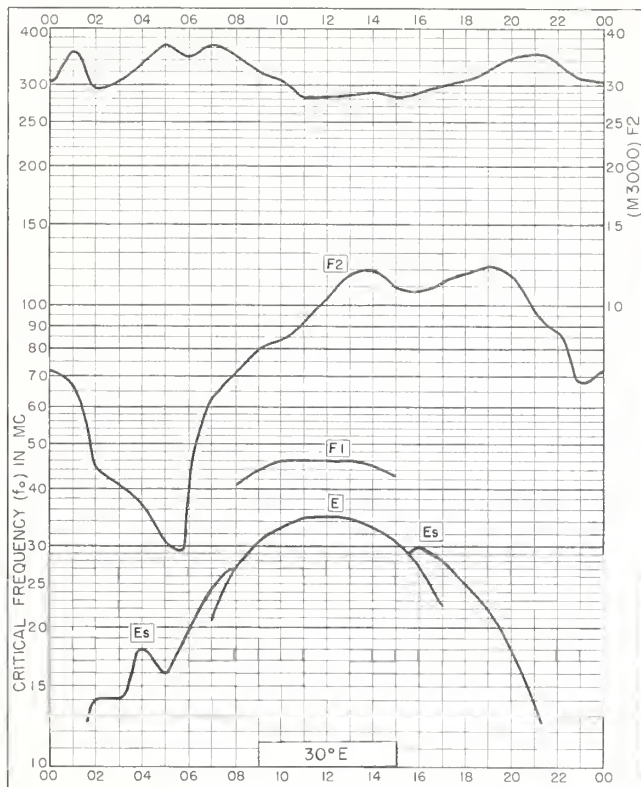


Fig. 85. LWIRO, CONGO  
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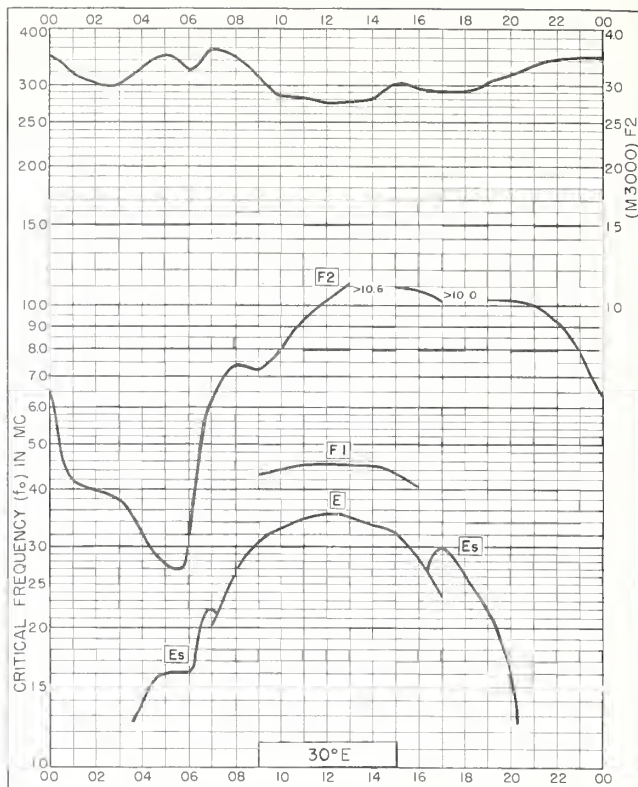


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MARCH 1955

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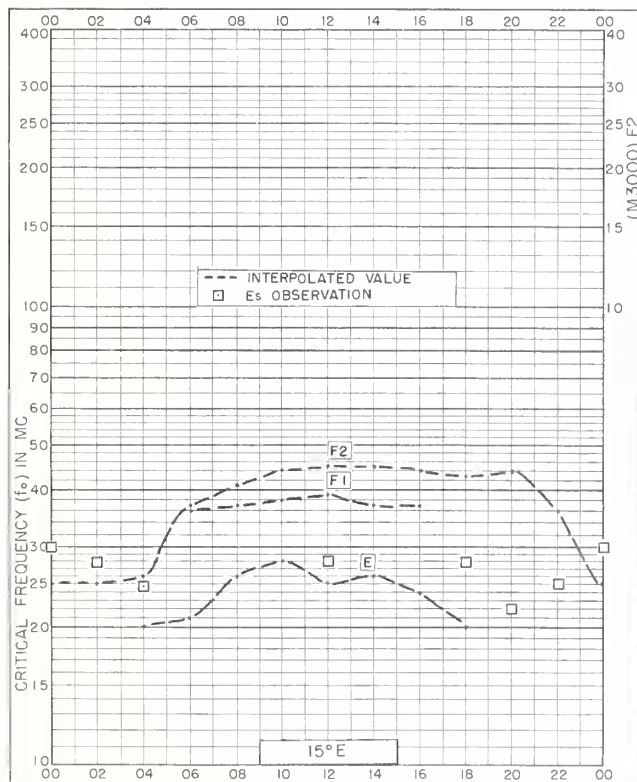


Fig. 87. LULEA, SWEDEN  
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AUGUST 1954

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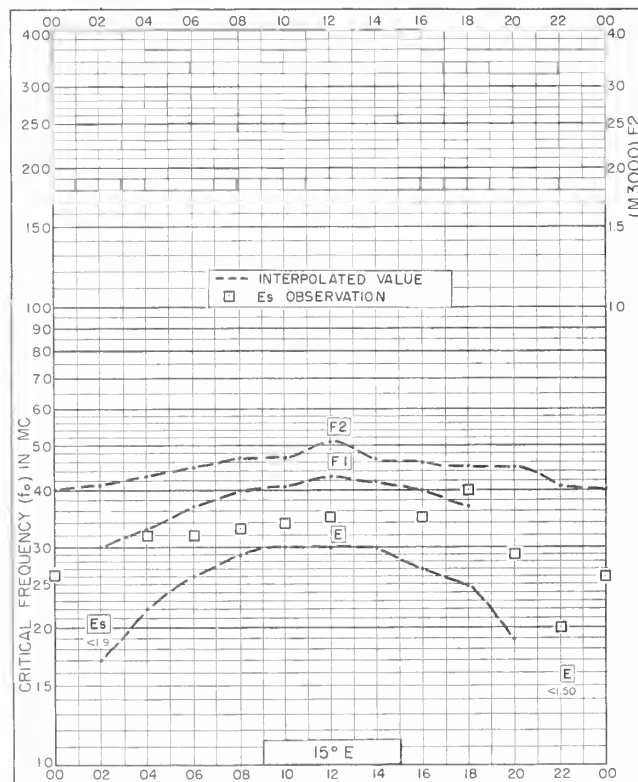


Fig. 88. LULEA, SWEDEN  
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JUNE 1953

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On sale by Superintendent of Documents. Members of the Armed Forces should address cognizant military office.  
CRPL—F. (Part A). Ionospheric Data.  
(Part B). Solar-Geophysical Data.  
Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

### Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

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### Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

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